

**THE RAILWAY GAZETTE**  
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INCORPORATING  
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## CONTENTS

	PAGE
Editorials .. .. .	881
Letters to the Editor .. .. .	885
The Scrap Heap .. .. .	886
Overseas Railway Affairs .. .. .	887
Road Transport Section .. .. .	889
Road Transport and the War .. .. .	891
Producer-Gas Vehicle Operation .. .. .	894
Pre-Stressed 108-ft. Reinforced Concrete Girders .. .. .	897
A New Slotting Machine .. .. .	897
Railway News Section .. .. .	899
Personal .. .. .	889
Transport Services and the War .. .. .	902
Disused London Tubes as Air Raid Shelters .. .. .	904
Notes and News .. .. .	906
Railway and Other Reports .. .. .	907
Railway Stock Market .. .. .	908

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## DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders, 1940, No. 629

## No Penny London Fares

THE Minister of Transport announced on Wednesday that he had made an Order authorising an increase in certain of the road service fares of the London Passenger Transport Board, and also in some corresponding London Transport railway fares, to produce a sum equal to about 10 per cent. of the receipts of those services. The higher charges, which are in accord with the recommendations of the Charges (Railway Control) Consultative Committee, will come into effect generally on July 3. The chief increase on the road services, and the only increase on the railways, is the addition of  $\frac{1}{2}$ d. to existing 1d. and  $1\frac{1}{2}$ d. fares, and to a number of existing 2d. fares. The reason for the advance, of course, is to enable the board to pull its weight with the main-line railway companies in the pool of receipts established under Government control. The primary feature of the change will be the disappearance of the popular 1d. fare. There has been considerable controversy about the elimination of this convenient basic charge, but the value of its abandonment is shown by the fact that of the total increase in receipts of £1,981,000 to be derived from the higher charges on the road services, no less than £1,315,000 is estimated to accrue from the increase of 1d. fares to  $1\frac{1}{2}$ d. The total yield of the advance now ordered is £2,070,000.

\* \* \* \*

## Northern Ireland Transport

The Government of Northern Ireland has taken powers under the Exchequer & Financial Provisions Bill (Northern Ireland), 1940, to acquire the "A" and the "B" stock of the Northern Ireland Road Transport Board. There is outstanding £410,469 of the former and £433,830 of the latter and the Government will pay holders par and 90 per cent. respectively. A formal offer to the individual stockholders is expected to be made shortly by the Northern Ireland Minister of Finance, whose purchase, the Bill specifically provides, is to be by agreement. The details of the operation and their implications are not yet known fully, but it would seem that the ill-starred experiment in road and rail co-ordination which began on January 1, 1936, is to enter on another phase. The accounts of the board to the end of September last showed an accumulated debit balance of £521,935, of which £323,964 represented interest. The Joint Select Committee on Road & Rail Transport in Northern Ireland in its report in August last recommended Government redemption of the stocks of the board, and urged that the Government should take a greater responsibility in the direction of the transport system. The developments in Northern Ireland will be followed with close attention in this country for any lead they may provide towards a solution of the transport problems which may have to be faced here after the war.

\* \* \* \*

## German Loans Outstanding

In the House of Commons on June 11 the Under-Secretary of State for Foreign Affairs, in dealing with a question on debts owing by Germany to this and other countries, circulated a statement of the amounts of the Dawes and Young Loans to Germany in 1931 and at the latest available date. He pointed out that interest had been paid in full until 1938 on bonds of these loans certified as being in British ownership. The interest rates on these bonds had been reduced by agreement in the summer of 1938 to 5 per cent. (from the original 7 per cent.) on the Dawes loan of 1924, and to  $4\frac{1}{2}$  per cent. (from  $5\frac{1}{2}$  per cent.) on the Young Loan of 1930. At these reduced rates payments of interest had continued until the outbreak of war. Of the British portions of these loans there are outstanding respectively £16,553,000 and £11,174,300. The loans

were raised under the successive plans to deal with reparations after the last war, and in both cases the German State Railway was called on to contribute heavy annual sums, amounting to £33,000,000 a year, to the reparation payments. In THE RAILWAY GAZETTE of May 16, 1930, just after the Young Plan had been accepted by Germany, it was pointed out that Dr. Dorpmüller calculated that the whole of the receipts for 205 days in every year were required for payment of wages and salaries; reparations swallowed the receipts for 47 days; cost of fuel took 21 days' receipts, and maintenance and renewals 78 days', and the remaining 14 days were used to pay interest and dividends and provide for reserves.

\* \* \* \*

### Overseas Railway Traffics

An advance of 80,000 pesos was shown in the traffic receipts of the Buenos Ayres Western Railway for the 50th and 51st weeks of the current financial year and in the same period a net improvement of 16,000 pesos was recorded by the Argentine North Eastern. The Central Argentine and the Buenos Ayres & Pacific are heavily down in the two weeks. On the Great Western of Brazil there was an improvement in the two weeks of £4,200 and 37 contos of reis, but the Leopoldina though £7,370 up in sterling was down 64,000 milreis in currency.

	No. of Week	Weekly Traffic	Inc. or Decrease	Aggregate Traffic	Inc. or Decrease
Buenos Ayres & Pacific*	51st	1,055	355	69,064	3,695
Buenos Ayres Great Southern*	51st	1,860	141	116,385	597
Buenos Ayres Western*	51st	726	69	39,236	1,186
Central Argentine*	51st	1,420	847	87,707	10,534
Canadian Pacific	24th	632,600	+155,800	13,445,400	+2,199,400
Bombay, Baroda & Central	10th	285,675	+32,775	2,102,250	+207,900
India					

\* Traffic returns in thousands of pesos.

Canadian Pacific gross receipts in the 23rd and 24th weeks of the current year have shown an increase of £251,400.

\* \* \* \*

### Mexican Railway Results

Gross receipts of the Mexican Railway Company for the second half of 1939 were 7,166,142 pesos, a gain of 87,749 pesos or 1.2 per cent. compared with the second six months of 1938. Passenger receipts were lower by 69,917 pesos, but goods traffic tonnage (466,297) increased by 14,836 and the goods traffic receipts of 5,159,989 pesos were higher by 149,814 pesos. In the working expenses of 8,031,628 pesos for the half-year there was, however, an advance of 306,032 pesos. Some figures for the complete years 1938 and 1939 are compared herewith:—

	1938 Pesos	1939 Pesos
Passenger receipts	3,816,573	3,737,025
Goods traffic receipts	10,660,171	11,314,745
Gross receipts	14,952,731	15,546,905
Working expenses	15,675,314	16,098,664
Loss on working	722,583	551,759

The total deficiency for the second half of 1939 was £116,240, increasing the total debit of net revenue to £1,300,119. During the current half-year traffic receipts have been maintained, but it has not been possible to effect any reduction in expenditure which remains at a high level in spite of the efforts of the management in Mexico.

\* \* \* \*

### Nitrate Railways Company

Results of the operations for the year 1939 were disappointing as the year closed with a decrease in gross receipts of £9,628 as compared with 1938. There was a further fall in the quantity of nitrate transported to Iquique due to the tendency for nitrate production in the province of Tarapaca, which the company serves, to decrease. On the other hand, as the Chairman and Managing Director (Mr. A. W. Bolden) pointed out at the recent ordinary

general meeting, sales of nitrate are now reported to be encouraging, and with old stocks more or less depleted, it should be necessary for production to be increased in order that adequate stocks may be accumulated against all contingencies. Traffics in 1940 have recorded an increase to date and there is hope for slightly better results than in the previous year. During 1939 the company encountered special difficulties resulting from the competition of the State railway operating in Tarapaca. The Chilean inland revenue authorities in their new property tax assessments have been contending that the company's published capital expenditure represented the present-day value of the railway, notwithstanding that the company's auditors had certified that the account in question was an original cost account, and did not represent a valuation of the undertaking. Representations have been made to the authorities on this subject.

\* \* \* \*

### Port of Bristol Authority

In common with so many other important and interesting statistics which have come to be awaited yearly, those hitherto issued by the Port of Bristol Authority make their present appearance in much curtailed form. The reason for the omission of many of the tables which the authority is accustomed to incorporate in its statement of accounts is, of course, the need for discretion in wartime in the disclosure of details which might be of value to the enemy. For this reason no information is given as to tonnages of vessels, imports, or exports. Nevertheless, from the financial returns it is apparent that the authority, as might have been expected in view of its location, enjoyed a very successful trading period in the year to March 31 last. Total gross revenue was £1,044,337 against £990,983 for the previous year and net revenue was £387,789 compared with £373,367; in both cases these are the highest since the alteration in 1927 of the date of closing the financial year. The principal sources of revenue were the traffic and warehouse departments, which yielded £430,679 (against £408,873). Dues on vessels brought in £3,252 less at £196,926, but those on goods were £20,515 higher at £291,178.

\* \* \* \*

### Ten Years of the Turksib Railway

Celebrations marking the completion of a decade of operation of the 900-mile line connecting the Trans-Siberian Railway at Novosibirsk with the Soviet southern system of railways at Tashkent were held in May in the U.S.S.R. Conceived first in 1878, but not built until the period of the first five-year plan (1928-32), this line has undoubtedly had a marked effect on the development of Kazakhstan and the vast area bordering Chinese Turkestan, and since the opening date something like a hundred short branch lines have been built to act as feeders. About 2½ million tons of grain have been carried to Central Asia over the Turksib line since 1930, and about 3 million tons of coal and 176 million cubic feet of timber. The line also provides the shortest route for Azerbaijan oil to reach the east, and more than 400 oil trains are worked in a year. Other principal traffics include mineral ores, rubber plants, cotton and hemp fibre, and 36,000 tons of beet a year. The local freight traffic is very heavy and is said to have increased threefold since 1931, and through freight traffic is more or less balanced in each direction.

\* \* \* \*

### More American Accelerations

Once again, as recorded in our May 24 issue, wholesale speeding up has taken place over the competing routes of the New York Central and Pennsylvania Railways between New York and the great cities of the Middle West. The cumulative effect of successive accelerations on the New York Central service is that fourteen daily trains now

cover this 958-mile route (or 961 miles if running into and out of Cleveland) in an average of 17½ hr., at a mean speed of 54.1 m.p.h. including stops; the best time remains 16 hr. by the Twentieth Century Limited (59.9 m.p.h.), and the Commodore Vanderbilt and the all-coach Pacemaker are 17-hr. trains each way. The scale on which traffic requires to be conveyed is clear from the fact that the Pacemaker leaves Chicago at 2 p.m., the Commodore Vanderbilt at 2.5, the Twentieth Century Limited at 3.0, and the Water Level Limited at 3.20 p.m., all taking between 16 hr. and 17 hr. 25 min. to New York; and there are corresponding services, including the 16-hr. Broadway Limited, over the Pennsylvania route. More information about such services will be found on page 887.

\* \* \* \*

### Chinese Railway Position

At the recent general meeting of the British & Chinese Corporation, the Chairman, Sir John Pratt, said that all the railways in which the corporation was interested were in Japanese hands, and all were being operated by the Japanese. The Peking-Mukden line is being operated by the North China Railway Company, a Japanese-sponsored subsidiary of the North China Development Company. Actual figures as to the earnings of the line are not available, but the loan service instalments have continued to be paid on due dates. The Shanghai-Nanking Railway and the Shanghai-Hangchow-Ningpo Railway remained under the control of the Japanese during the whole year 1939, and are now administered by the Central China Railway Company, a Sino-Japanese concern formed by the Japanese Government. Although trains run frequently and are freely patronised, no reliable information as to earnings is available and no payments of loan service were made in 1939. Turning to new interests, Sir John said that the corporation had considered financial assistance asked for by the Chungking Government for the Yunnan-Burma Railway construction. As, however, that government admitted that the capital could not be raised on a commercial basis, and as credits under the Export Credits Guarantee scheme could not be used for materials required for that construction, the immediate participation of the corporation was found to be impossible.

\* \* \* \*

### Locomotive Counterbalancing in America

The design of some new and very powerful 4-8-4 locomotives recently placed in service on the Chicago, Milwaukee, St. Paul & Pacific Railway differs notably in the method of counterbalancing from that of similar engines built two years earlier. In the first series, after counterbalancing all revolving weights and cross balancing those in the driving pair of wheels, 39.5 per cent. of the reciprocating weight balanced; the revolving weights of the new locomotives are balanced in the same way. Instead, however, of compensating for a percentage of the reciprocating weights, the portion of the latter which remains unbalanced in relation to the total weight of the engine was used as a basis for determining the amount of reciprocating overbalance. For these new locomotives 3.52 lb. of reciprocating weight per 1,000 lb. of the total weight of the engine were left unbalanced. The total weight of reciprocating parts on each side is 2,309 lb. of which 1,739 lb. remain unbalanced. The balance for the remaining 570 lb. is distributed, 120 lb. in the main driving wheels and 150 lb. in each of the front, intermediate and rear coupled wheels. Less overbalance is placed in the driving pair of wheels than in the other coupled wheels to compensate for the vertical component of the horizontal inertia forces of the reciprocating parts and the piston load brought about by the angularity of the connecting rod.

### Government Control of Railways

NOTWITHSTANDING the lapse of some four months since the acceptance by the railways of the Government's terms governing the financial arrangements for control of the lines, there has been no indication that finality has been reached on a number of important points to which only a brief reference was made in the White Paper outlining the financial arrangements agreed between the Ministry of Transport, and the four amalgamated railway companies and the London Passenger Transport Board. Many stockholders are enquiring when some authoritative statement will be made as to how the cost of restoring war damage is to be dealt with, and the absence of an announcement is reflected in the heavy fall in the price of railway securities. The White Paper states that provision will be made for the cost of restoring war damage up to a maximum of £10 millions in any full year (and *pro rata* for part of a year) to be charged to revenue expenditure when the damage occurs. It is also understood that the railway companies and the transport board have agreed, in principle, that the cost of restoring war damage in excess of £10 millions should be shared. These statements, however, leave the position obscure. Is the whole cost of restoring war damage up to the £10 millions limit to be charged to revenue expenditure, or is allowance to be made for the expired life of any assets destroyed for which provision has already been made by charges to renewal funds? If the latter, is the £10 millions limit a net figure after the allowance for expired life has been made? How are the words "£10 millions in any full year" to be interpreted? The White Paper also states that machinery will be provided to adjust rates, fares, and charges to meet variations in working costs and certain other conditions arising from the war; and although it may be assumed that this machinery was agreed before the recent increase in charges was made, no details of the machinery have been published.

A study of the debate on April 23 shows clearly that there was a considerable difference between what the chief critics of the Government wanted in the way of exposition and explanation of the financial agreement and what the Parliamentary Secretary to the Ministry of Transport (Mr. Bernays), who wound up the debate, promised might be given the House. Mr. Herbert Morrison was among the most insistent for publication of full details of the agreement, and the reasons which actuated the Government to raise charges. He said: "The country ought to have a White Paper giving the figures and the statistics on which the Government's decision has been reached and I ask the Government to give us an undertaking that such a White Paper will be introduced, and it ought to include details of the railway agreement itself." He concluded his speech by saying: "I ask the Minister . . . whether he does not think it his duty to see that a White Paper is laid, giving the details and the facts about this business together with the actual text of the agreement." Other members also pressed for the production of the full terms of the agreement. The Parliamentary Secretary in his reply at first declared that, since all the relative facts had been communicated to the House, a further White Paper would be of no value. Under pressure, however, he said: "Certainly we will consider laying before the House this extremely complicated agreement, but the drafting is not yet completed." A little later he said: "I have said the Government is committed by the heads of agreement and by the exchange of letters which has taken place. . . . If it is possible to put it [the agreement] in a convenient form, most certainly [the House shall have it]." It is to be hoped that the Minister of Transport in fulfilment of the promise given to the House will issue a comprehensive statement which will make the whole position clear,



as without such statement the publication of the text of what must be a complicated agreement would only add to the present perplexities of stockholders and the public. How far the House, in present circumstances, would wish to press the matter is questionable, but there is no doubt that uneasiness has been and is still being occasioned in many quarters by the delay in concluding details of the agreement.

It will be recalled that the acceptance of the financial agreement by the companies was subject to definite understandings on certain points. One of these, to which the companies are known to attach considerable importance, and which was referred to by all the chairmen at their annual general meetings, was an assurance that a formula defining the functions of the Railway Executive Committee would be settled. The Chairmen of the Great Western and of the London & North Eastern companies both pointed out that as it is an integral part of the arrangement that there should be a community of financial interests between the Government and the railway companies, it was necessary that the powers of the Railway Executive Committee in relation to the companies should be clarified. Lord Stamp stated that the directions of the Railway Executive Committee were carried out separately by each company through its existing organisations, the officers and staff remaining responsible to their management and board as before. His views on the functions of the Railway Executive Committee, as agent for the Minister of Transport, may be gathered from his statement that "while theoretically, and in law, the scope of Governmental interference and control is very wide indeed, in practice it will no doubt be confined to matters in which the State, for the prosecution of the war, has a direct interest." Lord Stamp also made it clear that he did not believe the railways could be run efficiently from Whitehall, nor even completely and on lines of dead uniformity by the Railway Executive Committee. It may be assumed from the foregoing that the view of the railway companies is that, as far as possible, they should be left free to conduct their own business and that intervention by the Minister should be governed by the criteria outlined in Section (I) of the Emergency Powers Act, 1939, under which Regulation 69, giving powers of control to the Minister, was framed. In effect, this would mean that intervention by the Minister would be limited to giving such directions as may appear to him to be necessary or expedient for securing the public safety, the Defence of the Realm, the maintenance of public order, and the efficient prosecution of the war, and for maintaining supplies and services essential to the life of the community. There certainly appears to be little justification for any intervention by the Government on other matters or in the ordinary management of the railways, which has amply demonstrated its capacity to meet all the heavy demands made on the systems since the outbreak of the war.

After the last war, it will be recalled, the Colwyn Committee was appointed by the Minister of Transport to consider and report on the nature and terms of the agreements made between the Government and the railway companies. The committee was forced to conclude that no document existed which recorded any clearly-defined agreement between the Government and the railway companies, so far, at all events, as to cover the details of its application, and that the agreement "had proved lacking in definition and precision and susceptible to varied interpretations." It was nowhere suggested in the Colwyn report that the railway general managers forming the executive committee had taken advantage of their expert knowledge or had pressed the claims of the companies to

the detriment of the State, nor could such a suggestion be made of the present body. There can be no doubt that now, as then, the committee has been actuated primarily by a desire to achieve the best results in the national interest. In time of war it is natural that the members, as well as their boards and the stockholders of their companies, should be fired with a patriotic zeal which would lead them to subordinate to the calls of the State private advantage and even, perhaps, matters of essential right were the need great enough; but it must not be overlooked that the ultimate fulfilment of the agreement and the final decisions will be taken after the war, in the colder and more judicial atmosphere which will come with the peace. It is therefore essential that the details of the agreement should be settled and the functions of the R.E.C. should be defined clearly. The latter step would not only do much to ease the invidious position in which the members now find themselves because of their dual loyalties, but would prove a valuable safeguard against the future. These are matters which we submit should engage the attention of the new Minister of Transport lest the present indefinite position reacts, as well it may, against the efficiency of railway operation.

\* \* \* \*

### Kenya & Uganda Railways & Harbours

THE Kenya & Uganda Railways & Harbours Administration operates 1,625 miles of metre-gauge railway, 3,853 route miles of steamer services, and 75 miles of road motor transport (exclusive of motor feeder services), as well as the port of Kilindini. The main line, 879 miles in length, runs from the Indian ocean at Mombasa in Kenya, to Kampala near Lake Victoria, in Uganda, with a 134-mile branch from Nakuru to Kisumu, where are situated the main workshops of the marine services. A connection with the Tanganyika Railways is made through the Voi-Kahe line of 92 miles. Other branches serve the Eastern Uganda cotton districts, the soda deposits at Lake Magadi, and other fertile areas. The port of Mombasa is served by Kilindini harbour, with its deep-water quays for ocean-going vessels. Comparative results of the railway services (inclusive of lake steamers and motor road transport but exclusive of harbour services) are shown in the accompanying table:—

	1938	1939
Passengers ... ..	892,471	1,019,048
Public goods, tons ... ..	1,050,881	1,026,337
Revenue train miles ... ..	2,700,968	2,562,495
Public freight ton miles ... ..	462,129,386	430,904,342
Operating ratio, per cent. ... ..	53.62	55.65
	£	£
Passenger receipts ... ..	194,013	211,493
Public goods receipts ... ..	2,294,088	2,091,782
Gross earnings... ..	2,605,429	2,424,013
Working expenditure ... ..	1,396,970	1,348,865
To renewal funds ... ..	347,560	354,848
Miscellaneous transactions (net) ... ..	Cr. 38,644	Cr. 124,762
Net revenue ... ..	899,543	835,062
Loan charges, etc. ... ..	647,836	645,442
Surplus ... ..	251,707	199,620

The annual report recently received from Brigadier-General G. D. Rhodes, the General Manager, shows that there was again, in 1939, a decrease in the earnings for the year. The combined revenue for all services amounted to £2,877,380, or £207,567 (6.73 per cent.) less than in 1938, while working expenditure was £1,542,046, exclusive of contributions to renewal funds, as compared with £1,593,550, a decrease of £156,063, or 3.23 per cent. The



net earnings balance of £1,076,328 over total expenditure on revenue account, was equal to a return of 4.7 per cent. on the total capital expenditure of £22,785,898, and of 7.6 per cent. on the interest-bearing proportion (£14,118,956) of that total. Interest and sinking fund charges amounted to £876,906, leaving a surplus of £208,422.

For the first time the number of passengers has exceeded the million mark; the increase again is chiefly in third class. After the rise of 17 per cent. in third class travel in 1938, the further increase of 15 per cent. during 1939 is considered very satisfactory. These increases are the direct result of lowering fares, and the question of whether the cost is being covered is carefully watched. As regards goods traffic, it is considered that the fact that gross tonnage of public goods fell only off by 2 per cent. is surprisingly favourable, in view of the uncertainty in the international situation during part of the year, followed

by four months of war. Recent tariff adjustments have continued to have the desired effect in connection with competition with other forms of transport. Efficiency statistics continue to be compiled, with the normal year 1935 as the datum year for comparison. The average wagon load again increased, and number of wagon miles per engine hour was also higher, having been raised to 280 tons, from 270 tons in 1938, although still below the 1935 figure of 284.6 tons. On the other hand average net train load was 227 tons in 1939, compared with 216 in 1938, and only 201 in 1935. Six new Beyer-Garratt locomotives, a complete description of which, as the report observes, appeared in THE RAILWAY GAZETTE of July 21, 1939, were placed in service during the year. Numbers of units of new rolling stock were also placed in service, and all these vehicles admit of conversion for working on the 3 ft. 6 in. gauge should standardisation with other African railways become necessary.

## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

### "Special Train Working Extraordinary in South Africa"

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As my attention had been drawn to your article entitled as above in THE RAILWAY GAZETTE of July 14, 1939, I thought that if I, as designer of the "19C" class locomotives referred to, remained silent, it might be inferred that I agreed with the opinions expressed by your correspondent in your issue of October 20, 1939.

The decision to revert to the Walschaerts valve gear for future orders must have been come to either while I was still in the service, on leave prior to retirement on pension, or immediately afterwards, so that I was not ignorant of the position at the time. Complaints about the R.C. valve gear did come in from certain depots, but at others it gave satisfaction. I saw some of the valve gear stripped and in very good order, and other gear of the same kind which had clearly been misused. A representative of the company responsible for the R.C. valve gear visited the depots concerned and saw what the position was.

The Walschaerts valve gear was invented in 1844. Fifty years later there were few if any locomotives fitted with it in Britain, yet it is quite common to locomotives today. In South Africa the bar frame, the steel firebox, the superheater, water treatment, the speedometer, all suffered similar setbacks, yet they are firmly established today. There is nothing surprising about these relapses; they are very human.

Your correspondent's quotation (b) on page 573 of the November 3, 1939, issue (from the article in THE RAILWAY GAZETTE of October 25, 1935) should have read "and up equal lengths of 1 in 80 and 1 in 100 at 49 m.p.h. (instead of 40 m.p.h.) in another mile."

A. G. WATSON,  
ex-Assistant General Manager (Technical)  
and Chief Mechanical Engineer, South  
African Railways & Harbours

### The Surrey Iron Railway

Essex House, W.C.2, June 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The completion of the first section of the Surrey Iron Railway from Wandsworth to Garrat in October, 1802 (referred to in the quotation you made from Abraham Rees's "Cyclopedia" in your issue of June 14) may possibly have been stimulated by the existence of Henckell's iron-works concerning which it is stated in "General View of the Agriculture of Surrey," by William Stevenson (London, 1809) on page 564:

"A very extensive iron-work is carried on at Garret-lane, in the immediate vicinity of the Wandle, and the railway by Mr. Henckell."

That this "iron-work" was in operation before the railway came into existence is shown by the reference to "Mr. Henckell's iron mills" amongst the manufactories in the parish of Wandsworth contained in Daniel Lysons's "Environs of London" (Vol. I, p. 503) published in 1792. These iron mills are not to be confused with "Messrs. Henckell's copper mills" referred to by Lysons (at page 539) as being in the parish of Wimbledon "situate at a considerable distance from the village" (Wimbledon) "on the banks of the Wandle," and therefore on or near the course of the railway. That the iron industry on the Wandle was, or became, of considerable importance is shown by the following passage in John Hassell's "Rides & Walks Thirty Miles Round the British Metropolis" (1817. Vol. I, pages 123-4):—

"The whole of the way from Merton, the iron rail road that comes from Croydon; or I would rather say, from near Reigate, passes close by the river on the right of Garret Lane alternately traversing in and out of the different manufactories and mills that are on the stream until it reaches Wandsworth, where its task is relieved by the tide of old Thames."

"At the iron forges and mills are cast shot, shells, cannon and other implements of war; in another part wrought iron is manufactured; and the wonderful power of mechanic power is exemplified in the splitting of iron bars of considerable length; also in a pair of shears which cuts asunder iron, more than two inches thick, and likewise a working hammer which weighs near six hundred-weight."

"The wealth produced by this stream, which barely reaches thirteen miles from its source to its junction with the Thames is immense. It is computed that the number of hands employed within the circumference of the Abbey walls of Merton alone has, at times, exceeded one thousand."

Dr. J. M. Hobson in "The Book of the Wandle" (London, 1924) at page 107 makes the interesting conjecture that the iron ore came from the deposits in the Weald of Sussex via Merstham and the railway, to be met by sea-borne coal brought for its smelting by way of Wandsworth.

Yours faithfully,

KENNETH BROWN

THE CRYSTAL PALACE TOWERS.—The Crystal Palace Trustees recently decided to demolish the famous towers, which survived the fire of November 30, 1936, so that the large amount of cast iron which they contain might aid the scrap campaign. The demolition has been entrusted to George Cohen, Sons & Co. Ltd. Each tower is 284 ft. high and contains 800 tons of iron. The original design of the Crystal Palace is illustrated in our Scrap Heap columns, page 886.

## THE SCRAP HEAP

Part of Hitler's plan for the invasion of Britain, we read, is to commandeer local railways for the purpose of rushing troops at great speeds to important centres. So much for his knowledge of our local railways.—From "Punch."

The various staffs of the L.N.E.R. are actively supporting the National Savings movement. So far 827 groups with a total membership of 26,676 have been formed. Several groups have been in existence for many years, but one in the Divisional General Manager's Office at York was formed at the time War Savings Certificates were introduced during the last war.

At the beginning of April a civic memorial tablet to Thomas A. Edison was unveiled at Stratford, Ontario, in the Canadian National Railways station, which stands upon the site of the former Grand Trunk Railway station where Edison as a youth worked as a telegraph operator. Dr. J. W. Browning, who is more than 95 years old and is hailed as the oldest living telegrapher in America, unveiled the tablet. Dr. Browning was born two years before Edison and knew him personally.

A Scottish travel record for a season ticket holder is believed to be held by Mr. Edward Brown of Monifieth, Angus. As a schoolboy Mr. Brown took out his first season ticket between Monifieth and Dundee on the Dundee & Arbroath (L.N.E.R. & L.M.S.R.) line in 1888. Since then he has held a season ticket continuously over this line with the exception of about 3 years between 1904 and 1906. The distance between Monifieth and Dundee is only 6½ miles, but during the period Mr. Brown has held his season ticket he has travelled no fewer than 182,000 miles.

### EARLY SWEDISH LOCOMOTIVES

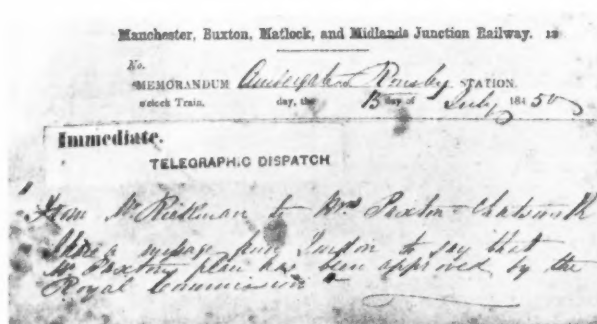
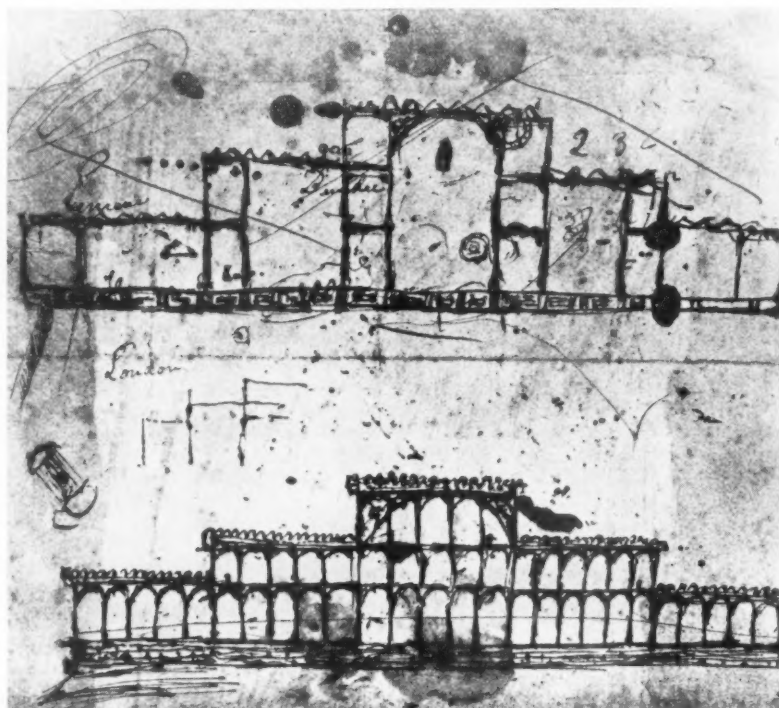
In connection with the references in THE RAILWAY GAZETTE of June 14 to early Swedish railways, a correspondent calls our attention to the following statement under the heading of "Railway Museum" in the commemorative volume issued by the Swedish State Railways covering the period 1906-1931: "The largest and most important exhibits refer to rolling stock, of which there are originals and models. The outstanding exhibit among the original specimens in the first State Railway locomotive, made by Beyer Peacock & Co., England, which began work in Sweden on December 1, 1856, on the first section of State Railway. Another exhibit is the *Fryckstad*, built in 1855 at Munktells Engineering Shops at Eskilstuna, for the line between the Fryken lake and the Klar river, which

was built as a horse line in 1849. There are also the *Carlstad*, constructed in 1861 at the Montala Works for the Ammeberg Railway, and which was in service until 1929; and the *Trollhättan*, the first engine produced at the Nydqvist & Holm works, in 1865."

The Canadian National Railways Recreation Association of Prince Rupert, B.C., successfully defended its national shooting title recently by winning the ninth annual Dominion Marksmen Senior Small Bore Rifle League Championship. The West Coast sharpshooters scored 496 of a possible 500 points in the final round. Second place honours went to the Canadian Pacific Railway Outremont Rifle Club of Montreal with 494 points, and a third place was won by Beothic Miniature Rifle Club of St. John's,

Newfoundland, with 484 points. About 40 teams took part.

George Spencer, Moulton & Co. Ltd., recently introduced a novel form of advertising in a series entitled "Shades of the Past." The series began by reproducing two interesting and valuable documents concerning the erection of the Crystal Palace for the Great Exhibition in 1851, and by courtesy of the firm we reproduce them below. It was pointed out that, while few would associate the Crystal Palace with George Spencer, Moulton & Co. Ltd., yet George Spencer, the founder of the firm, played an important rôle in its construction. Spencer was then in the service of a firm of engineers and became the actual designer of the Crystal Palace structure. It is traditional in the family that he was responsible for the incorporation of the transepts of the building.



Above: Joseph Paxton's original sketch for the Crystal Palace, made on a piece of blotting paper

Left: Telegram of acceptance of the design by the Royal Commissioners

## OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

### BRAZIL

#### Viação Ferrea do Rio Grande do Sul

An estimate of 4,802 contos of reis for the building of a line from São Thiago do Boqueirão to São Luiz de Missões has now been approved, and the 1st Railway Battalion is to be in charge of the work. The same battalion is also in charge of the building of a branch line from D. Pedro to Sant'Anna do Livramento, for which the estimate of 26,867 contos has also been approved.

#### Paraguay River Bridge, North-Western Railway

Work continues on the great bridge in course of construction by this railway over the river Paraguay at Porto Esperança. The bridge is considered to be a great engineering undertaking and is the largest of its kind in South America. It has a total length of 1,995 m. (6,545 ft. or  $1\frac{1}{4}$  miles) and has a clear headway of 16 m. (52 ft. 6 in.) above the highest known flood level of the river. The Paraguay river is the most central in South America and is a very important navigable waterway. But it drains a vast area of marshland in the State of Matto Grosso, as well as boggy tracts in Bolivia, Paraguay, and Argentina, and it has been necessary for the North-Western Railway to build approximately 40 km. (25 miles) of embankment to keep the rails above flood level. These embankments are now being raised to twice their original heights, and all railway buildings at Porto Esperança are being built on reinforced concrete piles as a safeguard against floods.

#### Details of the Bridge Including Lengths and Numbers of Main Spans

A length of some 800 m. (2,625 ft.) of the bridge—which was begun in January, 1939—has already been completed. The width of the actual river bed, where crossed, is 531 m. (1,742 ft.), the remainder of the bridge spanning its approaches, which are inundated during flood periods. The engineers have taken advantage of two islands in the main channel at the bridge site, and have used them for the construction of the piers carrying the main spans. Consequently the lengths of the latter are: No. 1 310 m. (1,017 ft.), No. 2 120 m. (393 ft.) and No. 3 91 m. (298 ft.).

Beyond the bridge the line, for which the project has been completed, will continue to Corumbá, a distance of 97 km. (60 miles), and it is expected that the whole construction will be finished by the middle of 1941.

#### New Paraguayan Rail Link

It is reported that the Export & Import Bank of the U.S.A. has granted a loan of \$3,000,000 to Paraguay for building a railway from Assumpção to Villa Rica to provide an outlet for Paraguayan agricultural produce to the Brazilian port of Santos.

### UNITED STATES

#### New York—Chicago Services

Some interesting particulars are given in the May issue of *The Railroad Enthusiast* as to the routes available for passengers between New York and Chicago. In 1897 there were as many as eighteen competing routes, and in the eastbound direction 44 daily trains, 35 of them with dining cars and 22 with through sleeping cars, provided travel facilities from Chicago to New York. Today the number of routes has come down to seven, and their lengths and fastest journey times are as follow:—

Railway	Distance	Fastest time
	miles	hr. min.
Pennsylvania ... ..	902.7	16 00*
Lackawanna-Nickel Plate ... ..	920.4	21 10
New York Central ... ..	958.3	16 00*
N.Y.C.—Michigan Central ... ..	958.6	19 15
Lehigh Valley—Grand Trunk ... ..	976.5	21 57
Baltimore & Ohio ... ..	989.2	20 28
Erie ... ..	995.6	22 05

\* Pullman cars only and extra service charge. Fastest time in "coaches" 17 hr.

These are the shortest routes in each case. New York Central expresses into and out of Cleveland Union Station, for example, cover 960.9 miles, and Pennsylvania trains travelling into and out of Broad Street, Philadelphia, cover 907.5 miles. Similarly by cut-off lines eliminating Wilkes-Barre, Ithaca, and Buffalo the Lehigh Valley could reduce its route to 947.8 miles. The two New York Central routes, dividing at Buffalo, take opposite sides of Lake Erie between there and Chicago, though almost identical in length; the main line (originally the Lake Shore and Michigan Southern) travels through Cleveland, Toledo, and Elkhart, and the line on the north side of the lake (the Michigan Central subsidiary of the N.Y.C.) via Windsor and Detroit.

#### The New York Terminals

The New York Central and Pennsylvania Railroads have an advantage over their competitors by the position of their terminal stations in New York City, only shared by the Lehigh Valley, whose trains use the Pennsylvania terminal. Passengers by all other routes must cross the Hudson River, either by ferry services taking 15 to 20 min. from the New York water front, or by motorcoaches using the new Lincoln roadway tunnel under the river; the Baltimore & Ohio has two frequent motorcoach services between different parts of New York City and its Jersey City station, and the Erie has just inaugurated a similar service between Times Square, New York, and Jersey City. The Lackawanna terminus is at Hoboken, across the Hudson. The Delaware, Lackawanna & Western, and the Lehigh Valley routes, taking different valleys through the Alleghenies, converge with the New York Central on

Buffalo, whence the former is continued to Chicago by the Nickel Plate (New York, Chicago & St. Louis) via Cleveland and Fort Wayne, south of Lake Erie, while the Lehigh Valley links up with the Grand Trunk Western subsidiary of the Canadian National Railways, continuing through Hamilton and Port Huron to Chicago. The Baltimore and Ohio is the only route which passes through Baltimore and Washington on its way from New York to Chicago; thence it proceeds via Pittsburgh, south of Lake Erie, and the Erie Railroad also keeps on the south side of Lake Erie.

#### Reasons for Many Routes

Although two or more of these different routes serve many of the same cities *en route*, the area of the Eastern States that they cover provides a very considerable number of large centres of population with through communication to and from New York, Chicago, and elsewhere, and their continued maintenance is thus justified. But by far the major proportion of the through New York—Chicago traffic passes over the New York Central and Pennsylvania routes; out of 77 through Pullman sleepers rostered nightly in each direction between the two cities (as a minimum, the number being frequently increased to meet traffic demands), 42 work over the N.Y.C. and 24 over the Pennsylvania, leaving only 11 over the other four systems combined; as a result the two former are able to run their principal services with very few stops, and the layout of their main lines permits high sustained speeds over the major part of their journeys.

#### Fewer Extra Service Charges

It may be noted that the only trains still commanding an extra service charge are the N.Y.C. Twentieth Century Limited and the Pennsylvania Broadway Limited; this is \$7.50, and as all the sleeping accommodation on these trains is of the single room type, the cost of travel by them is relatively high. On the other hand, both companies now run all-coach trains of a luxurious description—the Pacemaker of the N.Y.C. and the Trail Blazer of the Pennsylvania—in no more than 17 hr. The only diesel-operated streamline service is the Capital Limited all-Pullman train of the Baltimore & Ohio, but this, strictly speaking, operates only over the Washington—Chicago section of the B. & O. route. (See also editorial note on page 882.)

### INDIA

#### Accident on the M. & S.M.R.

In the afternoon of May 19, the M. & S.M.R. 16 up Bangalore—Madras passenger train collided with a goods train when entering Mailpatti station. A goods brake van and three wagons were derailed and damaged. Both up and down lines were blocked. Some passengers suffered slight injuries but were able to proceed to their respective



destinations after medical attention. The line was cleared in 18 hours and through running was resumed.

#### Railway Publicity

It is announced that from this June, the publicity branches of the East Indian and the Eastern Bengal Railways will be amalgamated with the Central Publicity Bureau of the Indian State Railways. The office of the Central Bureau at Delhi will be closed, and the enlarged functions of the branch will be administered from Calcutta. This step is taken in order to effect possible economy by avoiding duplication of work. It is also expected that the amalgamation will secure an intensification of publicity work by the combination of resources. Mr. G. T. Tait, the present Central Publicity Officer, will be in charge of the reorganised and enlarged publicity office.

#### Coal Consumption on the Railways

A note issued by the Publicity Section of the Bombay, Baroda & Central India Railway points out that the quantity of coal consumed on that railway provides work for 5,000 miners. Besides the production from the railway collieries, the B.B. & C.I.R. has placed orders for 391,000 tons of coal with various collieries for supply during 1940-41. Most of the orders are for steam coal, but other qualities are purchased for use in power houses and other auxiliary services. The employment provided is not confined to miners alone, as the transport by rail of railway coal gives work to numerous railwaymen and labourers engaged in loading, unloading, and transshipment. The note deals only with the consumption of coal on this one railway—and not one of the largest, either—but if account is taken of the huge quantities of coal used on all Indian railways, the importance of this single item of railway expenditure in the economic life of the country is readily understood.

### CHINA

#### Peking-Mukden (Peiping-Liaoning) Railway

The following notes were made on two recent return journeys over the Chinese section of the Peking-Mukden Railway from Chingwangtao near Shanhaikwan (on the Manchukuo border) through Tientsin to Peking. The standard of permanent way maintenance appears to be high, and extensive improvement works are in hand at various places. From Chingwangtao and Tongshan the line is double, but from there onwards to Peking it is single except for short detached lengths of double track; every effort is, however, being made to complete the doubling throughout. This has involved the construction of an entirely new bridge—consisting of a dozen girder spans—at Lanchow, some 300 yd. above the old bridge; two or three miles of realignment were, therefore, necessary in the approaches.

The express trains, carrying first,

second, and third class passengers, average about 40 m.p.h. and include a first class observation car and dining and sleeping accommodation, though the Japanese military appear to have first call on the latter. The ordinary trains, stopping at all stations, have no first class accommodation. All trains are very long and seem to be filled to capacity, but the first class cars are comfortable, well heated and lighted. There is only Japanese and Chinese food served in the diners.

The locomotives on passenger workings are mainly of the Pacific and 4-6-0 types, and as the coal burnt is very dirty they seldom look clean. British practice in all departments is still much in evidence.

The signalling is varied. At some wayside stations treadle releases are fitted to signals, which thus automatically return to the "on" position as an engine or vehicle passes them. There is an electric colour-light installation with route indicators at Tientsin. Tablet exchange is usually mechanical.

### ARGENTINA

#### Abnormal Floods

Exceptionally prolonged and torrential rainfall coinciding with strong south-east winds and phenomenally high spring tides in the River Plate during the second week of April caused extensive damage to the low-lying districts of the City of Buenos Aires and many of the adjoining suburbs, as well as up-country towns situated on the banks of the Rivers Uruguay and Paraná. A conservative estimate of the death-roll puts this at over 40, in addition to which many persons were reported missing and thousands were rendered homeless owing to their dwellings being swept away. The material damage is estimated roughly at some 30,000,000 pesos, but it is anticipated that when the losses are fully known this figure will be greatly exceeded. Fortunately, the railways escaped serious damage, although the suburban services on most of the lines were considerably interfered with, more particularly the electrified sections of the Central Argentine and Buenos Ayres Western Railways, on which train working between certain points had to be suspended.

#### Labour Unrest

During the month of April a certain amount of labour agitation occurred on two of the Argentine railways. On the Haedo section of the B.A.W.R. a minor strike was organised by the locomotive staff as a protest against the company's method of applying the "escalafon" system of promotion amongst the foremen, as well as other matters affecting the working regulations, and when the company declined to accede to their demands, the enginemen on this section for several days suspended work for periods varying between 15 min. and 1½ hr. As the movement threatened to extend to other sections of the line, the Director-General of Railways, on the

instructions of the Minister of Public Works, called a meeting of the company's representatives and the employees with a view to coming to an agreement on the points in dispute; the stoppages ceased forthwith.

A week later it was the turn of the Compañía General de Ferrocarriles de la Provincia de Buenos Aires to be affected by a similar movement organised by some of the outdoor staff, by way of protest against the company's decision to reimpose the wage cuts as from May 1. In this case the stoppage—carried out against the advice of the Union Ferroviaria, which dissociated itself from the movement—quickly collapsed when the Government intervened, ordering the company to take steps to normalise its services and dismiss any employees who refused to return to duty.

The system of railway working is at present being investigated by a special committee appointed by the Government with a view to determining what changes are considered advisable, more particularly in regard to staff regulations and the Presidential Award on the wages question, as well as the economic situation of the railways generally. It was tacitly understood that, pending the publication of the committee's report, a labour truce would be observed, and the above-mentioned disturbances on the B.A.W. and Compañía General lines—albeit of a minor character—were, therefore, a breach of this agreement.

#### State Railways Housing Proposals

A scheme drawn up by the Ministers of Public Works and Finance, and signed by President Ortiz, will be submitted to Congress during the forthcoming session, providing for the expenditure of 9,000,000 pesos on the construction of housing accommodation for the employees of the State Railways. The message to Congress states that the accommodation is required to complete the programme of improvements on lines constructed some years ago, mainly the C.N.A. and Cordoba Central Railways, as most of those recently built are already provided in this respect. The sum mentioned is to be spent on the erection of 889 dwellings, estimated to provide accommodation for 6,300 persons, including the families of both indoor staff and labourers. The work will be extended over a period of three years, and preference will be given to those zones where the weather conditions are most severe. The materials used are to be exclusively Argentine.

### MEXICO

#### Line to be Reopened

The Ministry of Communications has ordered the reconditioning for passenger and freight traffic of the railway between El Cobre and Rincon de Remos, in the State of Aguascalientes. The concessionaire of the line, the Ferrocarril Mexicano de la Union, has ceded its franchise to the Government. The cost of rehabilitating the line is estimated at \$250,000.

## ROAD TRANSPORT SECTION

*This section appears at four-weekly intervals*

### National Council for the Omnibus Industry

**A**FTER negotiations extending over many months between representatives of company bus operators and the appropriate trade unions, a joint industrial council has been formed. As stated in *THE RAILWAY GAZETTE* on June 21 at page 875, this council will deal with the privately-owned bus industry in England and Wales. The formation of this council represents an important step in industrial relationships and should prove effective in putting an end to the isolated strike action which has been so unfortunate a feature of the industry. A similar council for the municipally-owned bus industry has been in operation for many years and has enjoyed a large measure of success. The companies which are included in the latest agreement include such important concerns as the Lancashire United Transport & Power Co. Ltd., the Midland General Omnibus Co. Ltd., the West Riding Automobile Co. Ltd., and Red & White Services Limited, as well as the many associated companies of the British Electric Traction and Tilling groups. The council will consist of 32 members drawn equally from the companies and the unions. The representatives of the companies will include 6 nominated by the British Electric Traction Co. Ltd., 6 from the Tilling organisation, and 4 from other companies. The company representatives are: Messrs. R. J. Howley, J. S. Wills, P. R. Blake, O. C. Power, W. J. C. Taylor, G. W. Hayter (British Electric Traction); G. Cardwell, S. Kennedy, P. G. Stone Clark, Arthur G. Dennis, R. I. H. Longman, J. H. Mills (Tilling); E. H. Edwards (L.U.T.), D. Hays (Midland General), G. H. Margrave (West Riding), and J. H. Watts (Red & White). On the union side there are 12 representatives of the Transport & General Workers' Union, 3 of the National Union of Railwaymen, and 1 of the National Union of General & Municipal Workers. The members are: Messrs. Harold Clay, John Marchbank, F. Coyle, T. McLean, A. E. Morris, W. R. Humphrey, F. C. Jones, R. M. Cherry, H. Marsden, H. Blyth, C. Kitchen, W. Wells, T. Williamson, W. T. Potter, L. Ralph, and G. Procter. As announced in *THE RAILWAY GAZETTE* of June 21, Mr. R. J. Howley was elected Chairman of the council at its first meeting on June 14, and Mr. John Marchbank is Vice-Chairman; the Joint Secretaries are Mr. W. E. Bennett and Mr. Harold Clay. Brief biographies and portraits of these officers are published on pages 899 and 900.

### Southdown Motor Services

**M**R. SIDNEY GARCKE'S addresses to the shareholders of meetings over which he presides have come to be recognised in the road transport industry as providing opportunities, which he frequently seizes, of making pronouncements on the general trend of the industry. In the circumstances of the present war there is at once greater interest in the industry, and its progress and activities, and less freedom in discussion of them. At the annual meeting of the Southdown Motor Services Limited, held at Brighton on June 20, Mr. Garcke, nevertheless, was able to give an interesting review of the position as it had affected that

company, although it would probably be wrong to apply his survey to the generality of bus concerns. He pointed out that the company had enjoyed an exceptionally good year due to the fact that the accounting period ended in March. Therefore the benefit of a peacetime summer season and an active wartime winter had been secured. In the ordinary course of events the winter would have seen the absorption by the provision of essential but unprofitable services, of certain of the profits accruing during the preceding summer. Considerable extra winter traffic arose from two main factors—the transfer to the area served by the company of residents and evacuees, and the diversion to the cars of the company of passengers who normally would use their private vehicles. Working costs had not risen much because the increase in expenditure attributable to war conditions had not made itself felt for some time. The experience was abnormal and is not likely to be repeated, for, even if heavy traffic is offered in the current summer, it will not be possible to take advantage of it because of the limitation of fuel supplies and for other reasons. The directors have had to reduce pleasure services greatly, but they are endeavouring to keep alive the connection of the company in every respect so as to preserve for the future the valuable goodwill which it enjoys.

### Buenos Aires Transport Corporation

**T**HE first annual meeting of the Buenos Aires Transport Corporation was held in Buenos Aires on April 30, with the President of the corporation, Dr. Carlos A. Acevedo in the Chair. Dr. Alejandro G. Unsain attended on behalf of the Argentine Government, and the various tramway and bus concerns under the control of the corporation were represented. The report stated that the corporation at present operated all the underground and surface tramway services and 461 buses, and the total number of its employees was 415,108. During the year 1939 the receipts amounted to \$50,099,705 paper, and expenditure was \$50,189,789, leaving a deficit of \$90,084 paper; but if the percentage for renewals fixed by the bye-laws of the corporation is taken into account, the loss on working is increased to \$8,558,084. To this has to be added the sum of \$46,715,012, being the total amount of the unpaid contributions to the Pensions Fund owing by the transport concerns included in the corporation. The report stated that \$3,800,000 had been advanced by the corporation to the C.H.A.D.O.P.Y.F. Company in respect of the interest on its shares. The company had undertaken to pay interest at 6 per cent. per annum on this loan, which was required to meet the services on the 7 per cent. debentures with which the underground lines constructed by this company had been financed. The loss on the year's working was attributed partly to the increase in salaries and wages to the employees, involving an additional expenditure of \$4,200,000 per annum. It was estimated that once the full benefits provided for in the corporation bye-laws were granted, and additional staff had been engaged, the extra expenses would amount to some \$14,000,000 a year. Reference was also made in the report to the higher cost of materials and equipment due

to the war in Europe. The directors considered, however, that the rationalisation of the tramway services would result in a saving of, approximately, a million pesos per annum.

Numbers of questions relating to the status of some of the tramway companies and their employees incorporated under the co-ordination scheme have now been decided by a Government Decree issued on May 9. This rules that the Terminal Central Railway of Buenos Aires (Lacroze Underground line), the Southern Electric Tramways, and the Buenos Aires Town & Docks Tramway Company have been transferred from the jurisdiction of the National Railway Board to that of the central control board of the corporation, as from February 17, 1939, on which date the authority of the National Railway Board over these concerns ceased. As from the same date, the concessions granted to these companies under Laws Nos. 8,870 and 4,013 became null and void, and their employees became subject to the rules and regulations, scales of wages and promotion of the transport corporation. The Buenos Aires & Quilmes Tramway Company will, however, continue to operate under the control of the National Railway Board, although the control board of the corporation is authorised to intervene in matters relating to the use by the company of the corporation's tracks. The two bodies are to exercise a joint jurisdiction over the electric services between Federico Lacroze and Campo de Mayo stations, the personnel of which will have the status of railway employees. The operation of this service will be the subject of a subsequent agreement between the transport corporation and the Terminal Central Railway of Buenos Aires, the terms of which must be submitted to the National Railway Board for approval. Some uncertainty had existed regarding the position of the employees of these tramway companies which have been brought under the control of the transport corporation, as the personnel had hitherto possessed the status of railwaymen with respect to scale of wages, promotion, and pensions. The terms of this Decree make their position clear; but as, presumably, they will now forfeit some of the benefits they enjoyed under their former category, the alteration in their status may cause dissatisfaction.

### Anglo-Argentine Tramways

THE directors of the Anglo-Argentine Tramways Co. Ltd. are proposing a new scheme of arrangement which is to be submitted to debenture holders at meetings convened for Friday, July 5. The transport undertakings of the company were transferred on February 16, 1939, to the City of Buenos Aires Transport Corporation which was formed on June 10, 1938, under Argentine Law No. 12,311 of 1936, to take over the management of all passenger transport undertakings (apart from the railways under national jurisdiction) in the City of Buenos Aires and its suburbs. The consideration for the transfer of the company's transport undertaking has now been fixed at shares in the transport corporation valued at 198,187,172 pesos. A scheme of arrangement was sanctioned in 1938 based on the results which it was hoped the transport corporation would have been able to achieve in 1939. The corporation, however, did not take over the assets of the various tramway and underground railway companies and certain bus enterprises until February 16, 1939, and owing to the war it has been unable to raise funds for the acquisition of the competitive interests of bus and microbus undertakings. In consequence there is no prospect of the corporation earning the profits on which the Anglo-Argentine Company depends for its future income, and it has become necessary to modify the 1938 scheme of arrangement.

### Beira & Rhodesia Railways Road Services

THE report of the Beira & Rhodesia Railways for the year ended September 30, 1939, indicates that there was on the whole a satisfactory improvement during that period, compared with the previous year, in the working results of the road motor services. No new routes were opened, neither did it become necessary to withdraw any services owing to lack of support, and the route mileage in operation at the end of the financial year remained unchanged at 1,588. Mileage run during the year under review on sections other than the Vryburg—Bulawayo was 574,974, against 609,893 in the previous year; revenue amounted to £55,758 compared with £61,682; expenditure was reduced from £67,647 to £59,121; and the loss on working from £5,965 to £3,363. Tonnage carried in 1938-39 was 59,839, an increase of 6,273, and the number of passengers rose from 42,295 to 49,160. That revenue was lower by £5,924, notwithstanding the larger tonnage and the greater number of passengers, is accounted for by the transport of a greater tonnage of maize, which is a low-rated commodity, combined with shorter hauls, and by the operation for a full year of the reduction in rates as compared with only 4½ months in 1937-38. A revised classification and reduced rates and fares were introduced on May 16, 1938, in order to meet competition and to assist the farming community by the quotation of low rates for lorry-load traffics.

### Crossley Motors

AT the annual general meeting of Crossley Motors Limited on June 24 the Chairman, Sir Kenneth Crossley, was able to give shareholders an encouraging account of the progress of the company, and he presented accounts to them which made a very satisfactory showing. The almost complete changeover from civil to war work has naturally been accompanied by a great expansion in activity. This is reflected in the stocks and work in progress which, at the end of March last, were valued at £264,357, or more than double the previous figure. Sir Kenneth explained that during the months preceding the outbreak of war the company continued to make excellent progress on the municipal side of the business and to give good deliveries of diesel-engined buses and of trolley-buses. It had a record number of orders on the books for those vehicles, and, although conditions changed rapidly, the directors had succeeded for a time in meeting the most urgent needs of their customers. Realising that passenger transport had to be maintained, the company was still doing all that was possible to ensure satisfactory supplies of spare parts. The company is no stranger to the work which it is now called on to perform in increasing volume, for it has manufactured vehicles for the Air Ministry, the War Office, and other Government departments for over 25 years, in quantities which have varied according to national policy. These vehicles have been developed by the technical staff of the company to meet the special requirements of the Services and are likely to continue to be the most important part of the production of the undertaking. Two small works on convenient sites have been taken over to increase the war effort of the company in other directions.

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RAILWAY COACH LINKS TO MANHATTAN.—Times Square, in the heart of New York, is now linked by Erie Railroad motorcoaches with the station at Rutherford, N.J., via the Lincoln Tunnel. Considerable time is saved over the route via Jersey City and ferry.



## Road Transport and the War—10

### *New legislation on fuel supply, rationing, and storage—The position of alternative fuels—Removal of road identity signs—The roads of Abyssinia*

The return compiled by the Ministry of Transport of mechanically-propelled road vehicles registered for the first time under the Roads Act, 1920, by all registration authorities in Great Britain during May this year, as compared with May, 1939, shows a grand total of 10,842 vehicles against 45,600. Cars taxed on horsepower numbered 3,603 in May of the current year and went against a total of 28,268 in that month of 1939. The recent figure embraces 1 electrically-propelled vehicle. Cycles of all kinds are given at 2,979 compared with 6,495, and hackney vehicles totalled 284 against 1,257. Only 3 agricultural tractors were registered last month compared with 16 a year earlier, and other tractors numbered 31 against 16. Agricultural engines falling within the 5s. class amounted to 1,812 against 730. Among exempt vehicles there were 106, as compared with 3,220, Government owned, and 351 against 168 of other kinds. In the section covering goods vehicles, agricultural vans and lorries were given as 33 which goes against 107, and one local authority watering and cleansing vehicle as compared with 11. Other goods vehicles, which cover the great majority of those used in road haulage, aggregated 1,639 and compared with 5,312 a year earlier.

#### Motor Fuel Rationing

The Secretary for Petroleum has made an Order—the Motor Fuel Rationing (No. 2) Order, 1940, with effect from June 1, 1940. The purpose is to strengthen and clarify the provisions of the Order made in September last, which it supersedes. The principal provisions affecting suppliers and consumers of motor fuel may be summarised as follows:—

- (1) Motor fuel must not be furnished or acquired except against the surrender at the time of supply of valid coupons.
- (2) Motor fuel must be used only for the purpose and/or in the vehicle for which the coupons are issued and in accordance with any instructions and conditions appearing on or attached to the coupons or otherwise communicated to the person to whom they were issued. Motor fuel must not be used for a purpose other than that specified in any application in response to which the coupons were issued.
- (3) It is now a legal obligation to return immediately to the office of issue all unused coupons (a) when they cease to be valid; (b) when the purpose for which they were issued ceases to apply or (c) when the vehicle in respect of which they have been issued ceases to be licensed, whichever date is the earliest.
- (4) It is an offence to transfer coupons to any other person except that when a vehicle changes ownership the basic ration issued by a Post Office or Local Taxation Officer for that vehicle may be transferred to the new owner. It is therefore an offence to deposit coupons with a dealer or garage whether against the future supply of motor fuel or otherwise.
- (5) Any person authorised by the Secretary for Petroleum or a Chief Officer of Police may enter or inspect any premises used for or in connection with the business of a supplier or a producer of motor fuel for the purpose of securing compliance with the Order.

Mr. Geoffrey Lloyd (Secretary for Petroleum), replying to Mr. H. W. Butcher (Holland with Boston—Lib. Nat.) in the House of Commons on June 11, stated that adequate supplies of petrol were made available for all necessary road transport of essential commodities. These services were not prejudiced by the allotment of the strictly limited quantity of petrol for domestic purposes. He added that he had recently issued a new Petroleum Order, with the object of checking abuses and promoting further economy in consumption.

In a written answer to Sir John Mellor (Tamworth—C.) on June 13, Mr. Lloyd stated that allowances of petrol were made to commercial travellers at rates which were settled in consultation with representatives of their chief organisations a few months ago. They varied according to the horsepower of the cars, but otherwise they were uniform

for all travellers, without discrimination as to the type of merchandise concerned.

Further questions dealing with petrol rationing were asked on June 18 by Mr. T. Levy (Elland—C.) and Mr. W. Leach (Bradford Central—Lab.).

Mr. Geoffrey Lloyd in reply said: The House will be glad to know that as a result of action taken by the Government before and since the war, our supplies of petrol are at present very satisfactory. Substantial economies in the civil consumption of petrol have already been made by rationing and this automatically secures a corresponding economy in lubricating oil. I have recently issued a new Rationing Order designed to check abuses in the use of petrol, and I am proceeding with the appointment of inspectors to aid in this purpose. In view of these facts, I do not propose at this moment to make a further general reduction in petrol allowances, but I would emphasise that it is vital that all petrol users should co-operate to the full in the strict observance of the Rationing Order.

Replying on June 20 to Captain Vyvyan Adams, who asked him to prohibit motorcoach tours during the present emergency, Sir John Anderson (Home Secretary) said the use of petrol for motorcoach tours was already subject to control, and so long as the national situation was not held to require the restriction of private motoring to cases of urgent necessity there would, in the view of the Government, be no justification for further restricting motorcoach facilities, which were used largely by people without private cars.

#### New Fuel Order

The Secretary for Petroleum has made an Order, the Petroleum (No. 2) Order, 1940 (S.R. & O. 1940 No. 841), which prohibits, except under special licence, the use of paraffin or kerosene alone or in admixture with other hydrocarbon oils for the purpose of supplying motive power to a mechanically-propelled vehicle, except agricultural tractors and engines. It is an offence to have a mixture of kerosene and any other hydrocarbon oil capable of being used contrary to the Order. Paraffin or kerosene, which includes burning and vaporising oils and similar oils, is defined as any hydrocarbon oil having a closed flashpoint not less than 73° F. and not greater than 150° F.

#### Supply and Storage of Petrol

The Minister for Home Security has made an Order under Regulation 19B of the Defence (General) Regulations providing that any person who supplies and stores petroleum or any product of petroleum or benzole capable of being used as fuel or lubricants for motor vehicles shall not do so except in places, in quantities, and under conditions approved by the Secretary for Petroleum. The object of the Order is to regulate the supply and storage of petroleum products as may be necessary for military reasons and, while arrangements will be made to maintain adequate supplies to meet requirements, there will inevitably be a curtailment in the facilities enjoyed hitherto.

#### Fuel Questions

Speaking in the House of Commons on May 28, Mr. D. R. Grenfell, Secretary for Mines, stated that on the assumption that the types of vehicle suited for conversion to producer-gas propulsion normally averaged 20,000 miles a year at 10 m.p.g. of petrol, he would accept the estimate of Mr. Ellis Smith (Stoke) that every producer-gas vehicle was saving the importation of 2,000 gal. of petrol a year. Mr. Grenfell added that he was expecting shortly a report from a committee set up by his predecessor to consider still further steps to be taken to encourage the use of producer-gas vehicles. He admitted that a substantial increase in fuel

supplies would be necessary for large-scale operation, and regretted the closing of one of the fuel plants (the Suncoke plant, at Nottingham), but he did not see any grounds for Government financial aid as regards that particular plant.

#### Gas Vehicle Regulations

Certain goods vehicles and passenger buses may be allowed to travel up to 30 m.p.h. instead of 20 m.p.h. if sanction is given to the Motor Vehicles (Gas-Propelled Vehicles) Variation of Speed Regulations Order, which is now passing through Parliament. The goods vehicles are those with unladen weights under 2½ tons, and vehicles with trailers used solely in connection with gas or producer-gas propulsion.

#### Gas Container Regulations

The Ministry of Transport has issued at the price of 1d. the Motor Vehicles (Gas Containers) Provisional Regulations, 1940, which gives complete technical requirements for low-pressure and high-pressure gas containers and the associated pipe lines, valves, cocks, and pressure gauges, and for the reducing valves used in conjunction with gas trailers.

#### Radio Sets in Road Vehicles

A defence regulation issued in an Order in Council dated May 29 provides that, apart from certain authorised exceptions, no person shall have any radio receiving apparatus installed in any road vehicle. Any such apparatus, even if it is not fixed in position—for example, a portable set—will be deemed for the purpose of the regulation to be installed in the vehicle if it can be used or readily adapted for use.

#### "Grouped" Vehicle Insurance

Since September, 1939, insurers have agreed for periods of three months at a time to continue and extend, without any general increase in rates, existing policies for "grouped" motor goods vehicles, although the Emergency Powers (Road Vehicles & Drivers) Order, 1939, removed certain restrictions on "A," "B," and "C" licences under the Road & Rail Traffic Act, 1933. This arrangement was extended until May 31, 1940, and the Minister has now announced that the insurers have agreed to extend the arrangement until August 31, 1940.

#### Learner-Drivers

The Minister of Transport has made a regulation temporarily removing the requirement that holders of provisional licences must be accompanied by a fully-licensed driver, and that a vehicle must carry "L" plates. It may be necessary without notice to suspend again for a time the official driving tests owing to transfer of driving examiners to more urgent national service. Tests already arranged will be carried out as far as possible but may be subject to considerable delay. The new regulations relieving the holders of provisional licences from the requirement as to supervision will enable those who find it necessary to drive to do so even if they have no opportunity to take the driving test, and may ease the position if there is a scarcity of available drivers.

#### Removal of Signposts and Place Names

In order to obliterate all indications of position and direction which might be of value to invaders, steps have been taken to remove signposts, milestones, direction indicators, and similar marks of identity. Sir John Reith, Minister of Transport, announced in the House of Commons on May 30 that highways authorities had been instructed to remove signposts and similar indications and that the work had already been put in hand. It was reported on June 4 that the Postmaster-General had given instructions that the names on all post offices and telephone exchanges were to be painted out.

On June 18 the Home Secretary made the Removal of Direction Signs Order, 1940, under the Defence Regulations, prohibiting

the display of any sign, including any direction post, place name, or map, which furnishes any indication of the name of, the situation of, the direction of, or the distance to, any place, if it can be seen and understood from the highway. The owner of any such sign, and the occupier of any land or premises where it is placed, are obliged under the terms of the Order to remove it at once, and if they do not do so, the police are empowered to act in default. As regards small notices of such a kind that the place name cannot easily be read from the highway, Chief Officers of Police have discretion to give an exemption to such extent and subject to such conditions as they may think fit. Some bus destination signs, and roadside timetables, maps, and so forth, have already been removed.

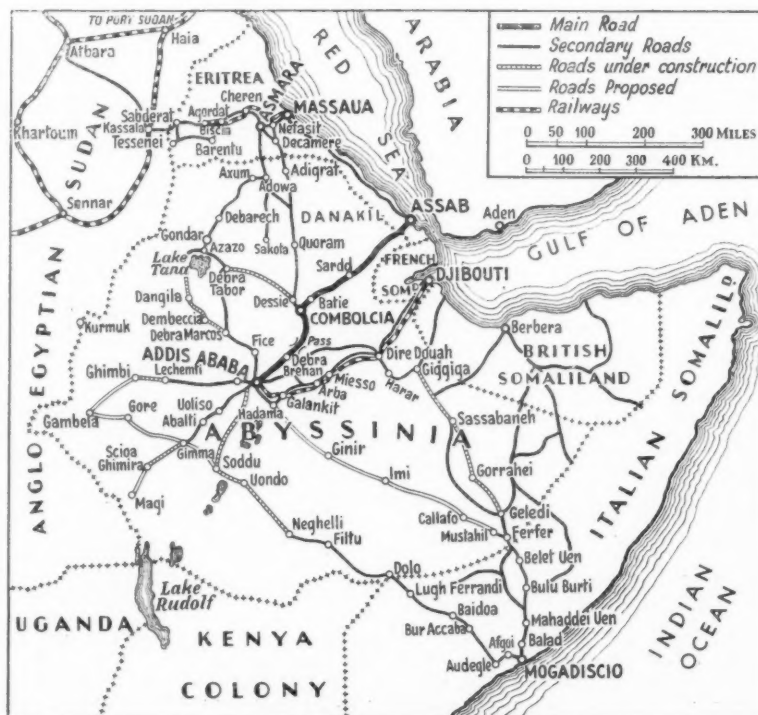
#### Restricted Movement by Road

Travellers by road are, of course, subject to restriction of movement into the Defence Areas in East Anglia, Kent, and Sussex, of which details are given on page 902. The Maidstone—Sittingbourne road (A.249) has been closed to general traffic from 8 a.m. on June 24. Motorists are advised to proceed *via* Chatham, or *via* Bredgar and Hollingbourne, or Dodington and Lenham.

#### The Roads of Abyssinia

In July last the Italian Government completed the construction of the new main highway through the province of Danakil, in Abyssinia, connecting Assab on the Red Sea with Combolcia, where the new road joins the one from Asmara and Massaua to Addis Ababa. It passes through a considerable stretch of wild desert country and has been built under difficult conditions of health and climate by 25,400 Italian workmen, aided by over 29,000 natives. The new road is 485 km. (300 miles) long, and, with the older section beyond Combolcia, forms the shortest route from the sea to Addis Ababa, the capital. The total distance is 861 km. (535 miles), compared with 1,173 km. (729 miles) from Massaua. From Mogadiscio, on the Indian Ocean, the distances by existing or projected routes to Addis Ababa are 1,737 km. (1,079 miles) *via* Dire Douah; 1,466 km. (911 miles) *via* Neghelli; and 1,381 km. (858 miles) *via* Ginir.

The only railway communication is from Djibouti, in French territory, whence the distance to Addis Ababa is 784 km. (487 miles), but the railway, the first part of which was



Sketch map of the road system of Abyssinia

begun in October, 1897, and the last section completed in June, 1917, is of metre gauge.

At Combolcia the new road connects with the one under construction to Gondar *via* Debra Tabor, which thus serves a vast tableland. About 50 per cent. of the traffic formerly dealt with at Massaua has now been transferred to the new route and extensive plans are in course of execution for modernising the port of Assab, to be completed by April, 1941. The run by motor lorry from the sea to the capital can now be accomplished in 20 hr. instead of 36, and the costs of haulage are stated to have been about halved. The old route from Massaua has difficult gradients and awkward bends with bad visibility, making it unsuitable for fast and heavy traffic. Also, it is only 6 m. (19½ ft.) wide, whereas the new one is 7 m. (23 ft.); so that trailers can easily be run on the latter. Before Italy declared war, it had been announced that sleeping berth road coaches, with air-conditioning, were to be introduced to provide a regular passenger service from Assab to Addis Ababa.

#### The Suez Canal Road

The road running parallel with the Suez Canal, from Port Said by way of Ismailia to Suez, was closed to all except Egyptian and British Army officers and persons with special permits on and from June 10.

## Overseas Notes

### New Canadian Scenic Highway

On July 1 one of the most remarkable scenic highways is to be opened. It is the Columbia Icefield highway and is to be officially opened at Athabaska Glacier Chalet in the Canadian Rockies. Claimed to be the largest in the world outside the Arctic Circle, this glacier covers an area of 110 sq. miles. The new road ascends to altitudes of nearly 5,000 ft., and traverses a belt of wonderful country having a background of apparently limitless snow-capped mountain peaks. It also runs close beside the Athabaska glacier, covering the five peaks of Mount Athabaska and comprising a part of the greater icefield. The new road actually completes the Jasper—Banff highway, and traverses the renowned Jasper National Park, the famous Lodge of which was visited by the King and Queen on their visit to Canada last year.

### Motorbus Traffic in Lithuania

During the year 1939, there were 215 motorbuses in service in Lithuania against 208 during 1938, according to some official statistics which have recently been issued by the Lithuanian Information Bureau. The total distance covered in 1939 was 7,121,800 km. against 6,749,200 km. in 1938, an increase of 5½ per cent. The number of passengers carried was 3,019,400, an increase of 17½ per cent. on the total of 2,569,000 in 1938. The number of passenger-kilometres increased 20 per cent., and in 1939 reached 96,435,100 against 80,116,200 in the previous year. Motorbus receipts during last year increased by 22 per cent., and totalled Lt. 6,755,900 against Lt. 5,523,900 in 1938. Part of these increases is attributable to the re-incorporation into Lithuania of the Vilna district, which during 1939 had 10 motorbus services of a total length of 401 km., served by 14 buses. It will be

### Petrol and Oil Supplies on the Continent

On May 28 it was reported from Stockholm that oil supplies from the Soviet Union to Germany had ceased and on the following day it was added that the reason was the inability of Berlin to make payments. An official of the Petroleum Press Bureau is said to have declared on June 6 that the great bulk of German stocks of oil were still in Western Germany because of the transport problem. Hamburg normally handled 4,000,000 tons of oil imports a year and, though imports ceased abruptly last September, the storage tanks there and at Bremen must have contained a large proportion of accumulated stocks. He estimated that as a result of R.A.F. raids at Hamburg and at Bremen one-third of the stock had been destroyed. On the Bremen radio, it was reported on June 10, it was stated that Germany had enough petrol in store to last another eight months.

In France further reduction in the petrol ration and an increase in the tax equivalent to about 5d. a gallon were announced on June 2. On June 6 the French General Staff requisitioned all lorries in the country, thus cancelling all purchase permits for private persons.

Reports from German-occupied Holland on June 1 stated that the sale of tyres for motorcars and bicycles was no longer allowed, except to the German authorities and certain public services. The use of petrol had been severely limited.

remembered that, in the Lithuanian Constitution, Vilna was formally selected as the capital city, and when Poland captured it Kaunas was adopted as the provisional capital. All relationships, both diplomatic and commercial, were severed between Poland and Lithuania, and were not resumed until March, 1938, and even then only under severe pressure from Poland. During the Polish-German fighting, Vilna was occupied by the U.S.S.R. Army and in October, 1939, Russia transferred Vilna to Lithuania, in accordance with Treaty obligations between Soviet Russia and Lithuania entered into in 1920.

### Kenya & Uganda Railways Road Services

The Kenya & Uganda Railways Administration operates 75 route miles of road motor services, exclusive of motor feeder services. The number of vehicles in use in 1939 was 21, against 20 in 1938. Total tonnage of goods carried in 1939 was 20,117, of which 17,635 tons were public goods. In addition there were 26,437 passengers carried. These figures compare with 22,770 tons of goods (20,266 public) and 17,260 passengers, in 1938. Mileage run during the year amounted to 387,090, made up of 308,251 miles loaded and 78,839 miles empty.

### Road Transport in Greece

The Hon. Clive Pearson, Chairman of Whitehall Electric Investments Limited, in his speech to shareholders at the annual meeting on June 4 said that the programme agreed with the Greek Government in July, 1937, for the construction of new works and the provision of modern equipment had continued. Sixty diesel buses had been in operation for the past two years, 12 trolleybuses had been delivered and would shortly go into service, and 40 of the 60 tramcars had been delivered and the remainder were due to arrive before the end of June.



Left: Rhodesia Railways four-ton Thornycroft goods and passenger lorry, fitted with 4LW Gardner diesel engine. It is arranged for the conveyance of either one European and 29 native passengers, or of 8,000 lb. of goods



## PRODUCER-GAS VEHICLE OPERATION

*An account of the experiences of lorry and p.s.v. operators. The most successful owners have been those who recognised that producer-gas propulsion must be made a success in the present emergency and who refused to recognise the principle merely as an engineering experiment*

By BRIAN REED

**D**URING the last eight or nine months an extensive and increasing experience has been obtained in the operation of producer-gas buses and lorries, and, despite the troubles encountered in filtration and in obtaining suitable fuels, it may not be untrue to say that the greatest obstacle to the much wider and more successful use of producer-gas has been the wrong psychological approach to the subject.

In the series of articles on producer-gas for commercial vehicles which the writer contributed to the issues of this section from November 17, 1939, to March 8 of the present year, it was emphasised repeatedly that technically the gas vehicle was inferior to petrol and diesel types, and that the real reason for producer-gas vehicles was the use of home-produced fuels. Under the present critical conditions it must be considered essential to make producer-gas an everyday success *now*; a considerable shortage of imported fuel might occur at any time without more than a negligible warning, and producer-gas would then have to fill a large breach in the country's road transport services. It is no use waiting until the actual emergency is here; the vehicles must be ready and working if and when that time comes.

### Technical and Traffic Problems

Fortunately, the major problems associated with producer-gas vehicle working are few, even if severe. They are two in number, namely, fuel and gas filtration. There are other difficulties of a minor kind, *e.g.*, interference with seating capacity and with the riding qualities of the vehicle, garaging, trailer operation, and the desirability of good drivers. Even the lack of pulling power at comparatively low engine speeds loses much of its terror if it is assumed that under present conditions producer-gas vehicles *must* be regarded as a practical proposition. There are few operators who have *no* flat routes or *no* rosters a little easier than others, and, as the object of the producer-gas vehicle is to save petrol or diesel oil, there is no reason why it should not be put on these duties, instead of being set to work on hilly or unsuitable routes, or tried under conditions designed to get the worst out of it.

Certain operators who have been applying producer-gas propulsion sensibly, and with the idea of making a real contribution to the national effort, believe that if present fuel and filtering difficulties could be minimised the producer-gas bus or lorry could be used as a normal traffic unit ready at any time, working continuously on standard schedules, and giving no more trouble than a petrol bus. Before dealing in detail with these two major questions, it may be as well to examine first some of the smaller problems which are not general, but which have been overcome in part or *in toto* by several operators, and yet still seem to appear of great magnitude to other producer-gas operators or potential operators.

### Rebuilt Vehicles

Producer-gas operation at the moment is dictated essentially by national emergency, which means conversions and not the production of specially-designed new vehicles. Two

of the immediate effects are the reduced seating capacity and the harsher riding of vehicles not equipped with trailer plants. These defects, though by no means uncommon, are not insurmountable, and several p.s.v. of both single-deck and double-deck types are at work with the same seating capacity as before. In a handful of cases, at least, of which the writer has experience, the riding of the bus has not suffered by reason of three-quarters of a ton extra weight at the back, although at the moment there seem to be more examples in which the riding comfort at the rear end has deteriorated to a degree at which it is noticeable.

### Trailer Plants

Whatever might be said against a vehicle and producer-gas trailer as a traffic unit, there is little doubt that under emergency conditions it is the simplest and most efficacious solution. To begin with, the trailer and plant can be built at any works and taken to the depot complete without the bus or lorry having been taken out of service. The modifications and additions to the vehicle take comparatively little time. Moreover, spare trailers can be housed at selected depots and can be used either to replace plants which have developed a running defect, to operate extra vehicles in case of a petrol or fuel oil shortage, or to work any emergency traffic without cutting into the stocks of imported fuel.

Again, defects in the plant itself, such as fire-spreading, are kept away from the bus or lorry, and taken generally the producer, cooler, and filter are rather more accessible on a trailer than at the rear end of a bus or behind the driving cab of a lorry. In one case, at least, a single trailer plant has been kept at a depot where the producer-gas vehicles were all of the rebuilt type with the plant on the chassis; but it was (and is) used as a spare by means of a simple re-coupling of pipes, and allows a gas bus to maintain the remainder of its day's run until there is time for the regular producer to be removed or repaired.

Manoeuvring of vehicles fitted with gas trailers has usually been considered a more or less serious disadvantage, but in practical operation it appears to have been over-rated in all but the most exceptional of depot and terminal locations. Although it may be the practice simply to reverse, say, a city bus at the terminal point of its run, there is usually little difficulty in finding adjacent a block of houses to run round. Even then, this method may be of use mainly in the dark, for in daylight a competent driver may be able to effect a successful reversal nine times out of ten. Nevertheless, the great majority of trailers now in use require the dropping of the traction pin and the raising of two light struts when changing from pull to push, but neither this operation nor the slight change in practice of running round a block can be considered a serious disadvantage.

### Garaging

Objections by insurance companies or executives to the stabling of producer-gas buses or lorries under cover along with petrol vehicles are also met by the adoption of trailer plants, which can be kept outside in the yard while the

vehicle receives cleaning and attention inside. If several or many producer-gas vehicles of the trailer type are kept at such a depot, the provision of one or two trailer plants enables the maximum possible use to be obtained from the vehicles and from the producer plants. One transport manager has cited an increase in the necessary garage space as a disadvantage of trailer plants, but this is hardly likely to be a difficulty unless the number of trailers is in excess of a hundred or so at a big depot.

### Driving

One of the results of improvement in gas filtering methods has been a slight simplification of driving operations, *e.g.*, the air intake may now be a plain hole without any regulation from the driving position. Nevertheless, in the present state of the producer-gas art it pays to select intelligent drivers for transfer to the converted vehicles if the best possible results are to be obtained. Such a selection is not essential to make the vehicle go, but simply to get the best out of it and widen the selection of routes and duties which it can work. If any general statement can be made, it is that from lorry drivers can be produced a greater proportion of good gas drivers than from p.s.v. men. Large numbers of p.s.v. men are no mechanics and simply alight from their vehicles if anything goes wrong. On the other hand, a p.s.v. operator usually has a number of drivers of more than the average intelligence, and these men can be trained quickly to handle producer-gas vehicles.

### Duties

Modern petrol and diesel vehicles are generally masters of whatever schedules or loads can be put on them in lorry or bus operation, and as the *raison d'être* of the producer-gas vehicle is to save imported fuel there is no reason why such vehicles should not be given duties of which they are masters, and leave the regular types to the heavier and more onerous duties.

Successful operation over moderately undulating or level routes does not mean equal performance over routes com-



Trailer carrying a Ministry of Mines producer hauled by a London Transport double-decker

prising one long grade or more numerous short and steep hills. Lower engine torque may mean such a decrease in uphill speeds and in the rate of acceleration that the schedule must be lengthened, or else a shorter lie-over time or less time-recovery margin allowed. Under other conditions poor gas production is the disadvantage. For example, between Bowness and Windermere was tried a producer-gas bus which had given satisfactory performance over undulating and level roads. But from Bowness to Windermere the road rises all the way, and there are frequent stops; the bus waited on the pier at Bowness for anything from a quarter of an hour upwards, and before it had time to begin generating high-quality gas it was on the hill and stopping and starting, and could get to the top only with difficulty. In the reverse direction the engine was scarcely used at all, and no gas was generated.

Conversely, extremely satisfactory results have been obtained with a single-deck bus belonging to the Eastern National Omnibus Co. Ltd., which operates a long-distance limited stop service between Chelmsford and London, where the conditions allow of the continued production of good gas and there are no steep hills where the loss of engine torque becomes trying. This vehicle is equipped with a Gardner 5LW engine, which, of course, is quite ample for the size of bus, and a modified Gohin-Poulenc producer which is housed at the back without entailing any loss of seats or the use of a short cantilevered platform. On such runs the performance of the bus is not below that of a petrol vehicle of similar type, but running tests showed that on gradients of 1 in 15 or steeper it was one gear inferior to a petrol bus.

### Producers

Practically every producer-gas vehicle in these islands has a cross-draught or dual-draught plant, the cross principle being more or less essential for burning coal fuels.



Gohin-Poulenc plant housed in the back of a 36-seat bus converted from diesel to producer-gas operation by United Automobile Services Limited

But there does not seem to be a great deal to choose between the various types. Some of the models originating on the Continent were intended first for charcoal burning and required modifications to suit them to anthracite fuels. As an instance, the two tuyeres supplied with certain plants have never been practical propositions because for satisfactory results the two must work absolutely in unison, and any clinker or upset in one would hinder the balanced working and probably lead to the fire spreading. Since blocking up one of the two tuyeres, several companies have eliminated tuyere-burning and fire-spreading troubles.

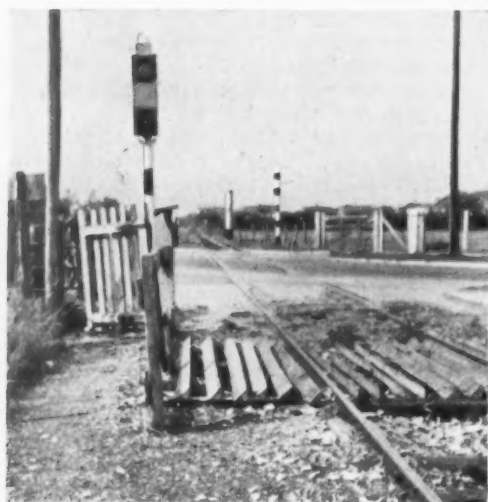
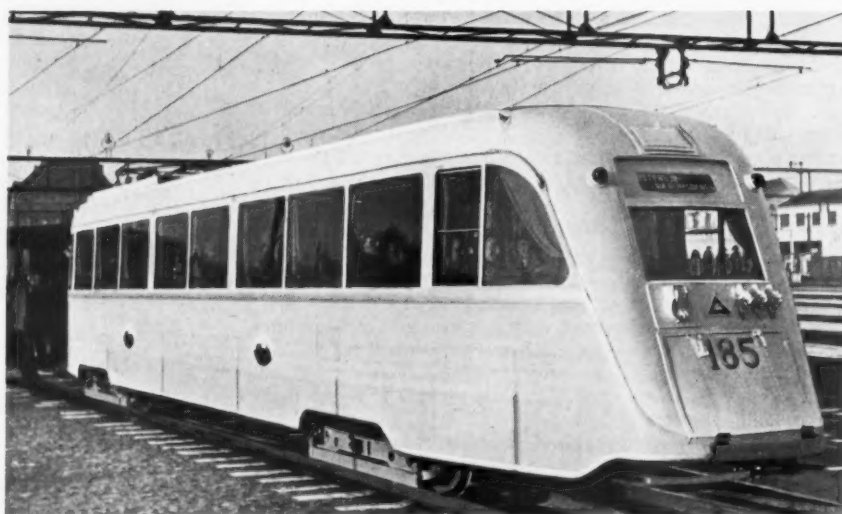
Although water cooling of the tuyere is incorporated in most models, water injection scarcely seems to be worth while, on the score of simplification; waterless injection makes the plant simpler and the driver's duties a little

easier. The latest Brush-Koela design includes a tube coil in the water injection system, but, although a gas of theoretically higher calorific value is obtained by using water injection, this at the moment is quite secondary in its effect on general performance to adequate filtering, and a bus or lorry is first and foremost a traffic machine and not a heat engine.

Acknowledgment is due to the courtesy of Mr. John F. Heaton, Chairman of Thos. Tilling Limited, in the preparation of this article. The Tilling group of operating companies has played an outstanding part in tackling the particular problem of producer-gas vehicle operation, and Mr. Heaton has generously afforded facilities for observing such vehicles in service and learning of the results achieved.

(To be continued)

We recorded in the Road Transport Section of THE RAILWAY GAZETTE of June 23, 1939, that many bogie tramcars had been ordered by the Oslo Tramway Company. The works of the manufacturer, Strommen Verksted, Strommen, are on the Oslo-Lillestrom railway some 11 miles from the capital. Through co-operation between the management of the Norwegian State Railways and the Oslo Tramway Company, the tramcars were mounted at the factory and transported on their own wheels to Oslo on the State Railways. The tramways have 500-volt d.c. and the railways 16,000-volt a.c., so that the tramcars had to be hauled by tractors



The Weston, Clevedon & Portishead Light Railway was closed on May 18, and presumably the level-crossing traffic lights, to which we have referred more than once, have ceased to function. As shown by the above illustrations, the rail aspects were red and green only. The lights were normally clear for road traffic and were actuated in favour of the railway by an approaching train depressing a treadle as shown above. See also our issues of August 26, 1938 (page 373) and April 7, 1939 (pages 588-9)



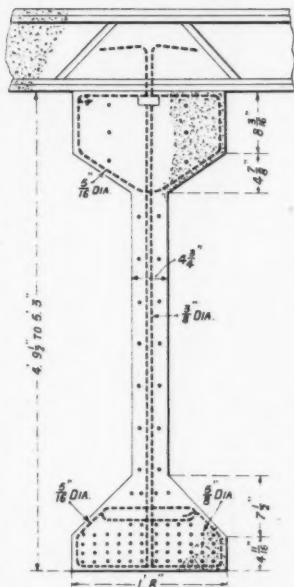
## PRE-STRESSED 108-FT. REINFORCED CONCRETE GIRDERS

*The first use of a novel method*

WHAT is believed to be the first use of pre-stressed steel in an important reinforced concrete bridge has recently been made in Germany. The bridge is a 102-ft. (clear) quadruple girder span over a Reichsautobahn, the girders of which are 4 ft. 9½ in. deep at the ends and 5 ft. 3 in. at the centre. Both the longitudinal steel reinforcement and the stirrups are pre-stressed, to eliminate tension stresses in the concrete which thus takes only compression stresses.

The pre-stressing of the steel has, in such cases, to be so high that subsequent loss of stress through shrinkage and plastic flow of the concrete is only a part of the pre-stressing, also that sufficient pre-stressing remains to keep the whole concrete cross-section of the beam in compression in all conditions of live loading.

The reinforcement for the lower flange in each girder—a cross-section of one of them is shown—was first placed in the form, and pre-stressed by means of a wooden beam beneath the form, to which the pre-stressing device was attached. Concrete for the lower boom was then poured, vibrated, and compacted by the expansion under



*Cross-section of girder*

hydraulic pressure of a flexible rubber hose inserted in the concrete; the latter was heated to insure rapid setting. The web and upper flange concrete were then poured in turn. After sufficient setting, the pre-stressing device was released by removing wedges in the middle of the wooden beam, and the high tension of the pre-stressed steel was thereby transferred to the concrete, creating in it a compression to counteract the existing tension in the steel. The girders were fabricated at one side of the bridge and moved laterally into position on the abutments.

We are indebted to our U.S.A. contemporary, *Engineering News-Record*, of March 28, 1940, for this information and for the accompanying drawing.

### Union Pacific Railroad

Route-miles operated by this company at the close of 1939 were 9,898, compared with 9,904 at the close of 1938. The system forms one of the main links between the Middle West and the Pacific Coast. Revenue freight tonnage in 1939 advanced by 4.6 per cent., revenue freight ton-miles by 11.5 per cent., and freight revenue by 10 per cent., in comparison with 1938. Passengers increased 4.1 per cent. and passenger revenues 6.4 per cent. The increase from 70.39 per cent. to 71.75 per cent. in the operating ratio was due to heavier outlays on maintenance.

	1938	1939
Freight revenues ... ..	\$ 120,429,544	\$ 132,484,798
Passenger revenues ... ..	16,565,711	17,630,948
Total operating revenues ... ..	150,213,214	164,253,371
Total operating expenses ... ..	105,731,151	117,858,588
Net operating income ... ..	19,867,391	20,233,188
Total income ... ..	33,490,736	33,813,563
Fixed and other charges ... ..	14,789,503	14,846,932
Net income ... ..	18,701,233	18,966,631

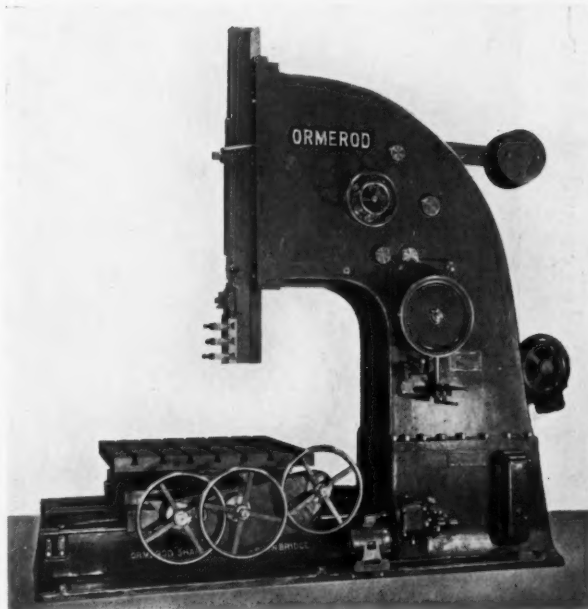
Dividends paid in 1939 were 4 per cent. on preferred stock and 6 per cent. on common stock, totalling \$17,319,184, the same as in 1938. The amount transferred to profit and loss in 1939 was \$1,647,447, against \$1,382,049 in 1938.

### A New Slotting Machine

*Ormerod 26 in. heavy-duty type  
with individual motor drive*

The photograph reproduced herewith shows a 26 in. stroke heavy-duty slotting machine, recently developed by Ormerod Shapers Limited, of Hebden Bridge, Yorks. The machine is of exceptionally sturdy construction. It is mounted on a heavily ribbed base to give the greatest rigidity under all working conditions, and the slide ways carrying the table are of large area, to take the shock of the cutting tool. The table has traverse both by hand and self-acting power feed, also rapid power traverse through a separate motor, the rapid power traverse being so interconnected with the feed that it operates in the opposite direction. A reverse box is also provided.

The machine is driven by a 20 h.p. motor mounted on the rear of the column, through vee ropes and powerful friction clutch to the nine-speed gearbox, which is housed inside the body. The gears are of heat-treated nickel chrome steel and mounted on solid multi-splined shafts of large diameter. The final drive to the ram is by double steel gears, and a steel link, the link motion, gearbox and main bearings being cascade lubricated by means of a pump. The stroke may be varied whilst the machine is in motion or at rest, and a locking device is fitted. The machine, which occupies a floor space of 13 ft. by 9 ft., weighs approximately 11 tons, and is capable of dealing with work pieces of diameters up to 7 ft. and heights up to 3 ft. 6 in.

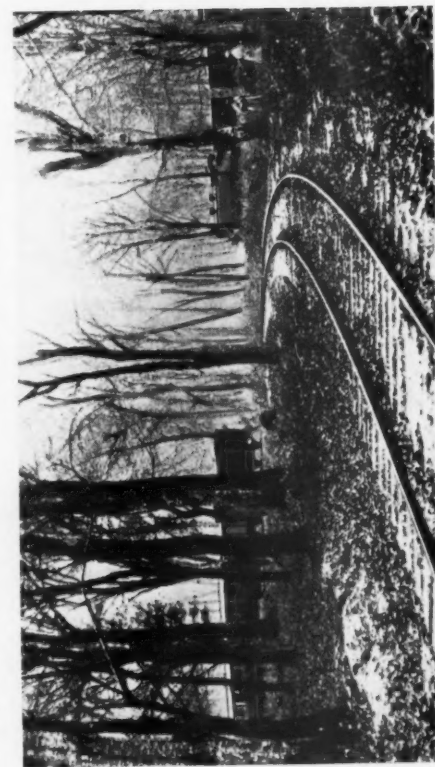
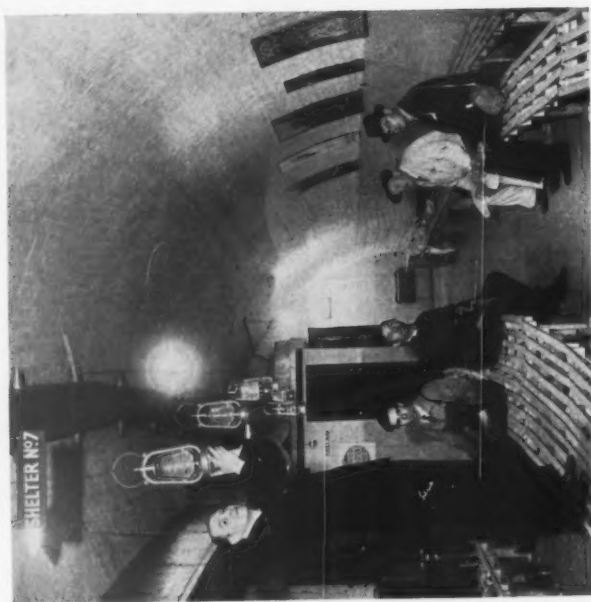


*General view of new heavy-duty slotting machine*

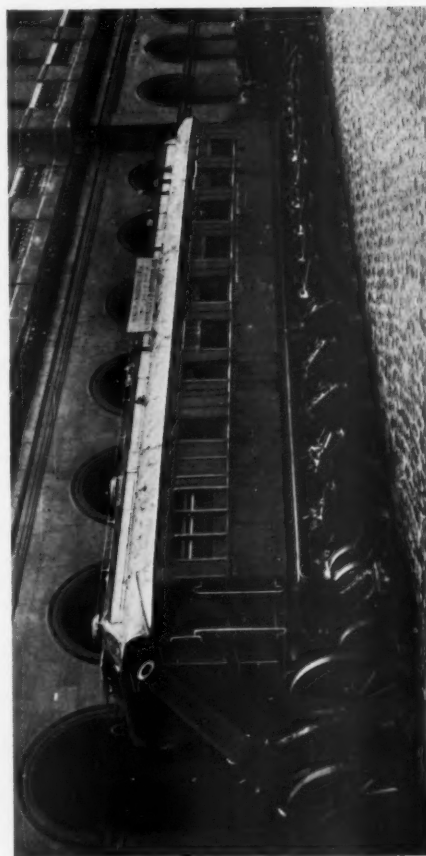
## Railways and the War—25



Left: View taken in March, 1939, of the disused King William Street tube station, the original terminus of the City & South London Railway. Right: Recent view of mezzanine floor erected in old King William Street tube station, now an air-raid shelter (see page 904)



The spot in the forest of Compiègne where the Armistice of November 11, 1918, was signed. Marshal Foch's train is on the left, and that of the German emissaries on the right. Hitler selected the same spot for the Armistice of June 22, 1940. The carriage in the right-hand picture is the dining car of the Wagons-Lits Company used on both occasions. The picture was taken when it was kept with other war trophies in the courtyard of the Invalides in Paris, whence it was moved and solemnly installed on November 11, 1927, in a shelter at the spot where the Armistice was signed. (see page 905)



## RAILWAY NEWS SECTION

### PERSONAL

We regret to record the death on June 21 of Mr. E. C. Short, Trade Advertising Agent, Advertising Department, Southern Railway. Mr. Short, who was born on August 22, 1886, entered the service of the old Metropolitan Railway in the audit office on March 4, 1901, and on September 5, 1906, was transferred to the office of

He was trained as a civil engineer, and for some years was engaged on railway, light railway, and dock construction. He joined the British Electric Traction Co. Ltd. in August, 1899, as Assistant Permanent Way Engineer; in January, 1901, was appointed Assistant Construction Engineer to the B.E.T.; and in May, 1902, was nominated Permanent Way Engineer to a number of the associated tramway companies. From

Company at Beattock. He left the railway and joined the Dumfries County Constabulary, but later re-entered the service of the Caledonian Railway Company as a shunter at Buchanan Street station, Glasgow. He joined the Amalgamated Society of Railway Servants in 1906; was a member of the Executive Committee of the N.U.R. from 1916-1918, and President of that body from 1922-24. Mr. Marchbank



*The late Mr. E. C. Short*

Trade Advertising Agent, Advertising Department, Southern Railway, 1927-1940, who died on Friday of last week.

the General Manager. On August 1, 1919, he became Chief Assistant to the Commercial Manager, in charge of advertising. He was Chief Officer of the Metropolitan Railway Headquarters Fire Brigade from 1925 to 1927, and was Chairman of the Railway Advertising (Publicity) Representatives' Meetings, 1927. Mr. Short joined the service of the Southern Railway on July 1, 1927, as Trade Advertising Agent, in view of the fact that the Southern Railway had then just adopted the policy of dealing with its own trade advertising as existing contracts expired. The funeral took place on Tuesday (June 25), at Clinch Green cemetery, Bexhill, and was attended by representatives of every section of the Trade Advertising Department. There were many floral tributes from friends and from customers of the Southern Railway.

Mr. Richard Joseph Howley, C.B.E., M.Inst.C.E., M.Inst.T., who, as announced in our June 21 issue (page 875), has been elected Chairman of the National Council for the Omnibus Industry, was born in 1871, the son of Lt.-Colonel John Howley of Rich Hill, County Limerick, and was educated at Oscott College and Dublin University.



*Elliott*

*[& Fry]*

*Mr. R. J. Howley*

President of the British Electrical Federation, who has been elected Chairman, National Council for the Omnibus Industry

1912 to 1919 Mr. Howley was Joint Manager of the B.E.T., and was elected a Director in 1923. He served as a Member of the Tramways (Board of Trade) Committee, and of the Railways Priority Committee, 1917-1919. Mr. Howley is now President of the British Electrical Federation; Chairman of the Birmingham & Midland Motor Omnibus Co. Ltd., the Northern General Transport Co. Ltd., Stratford-upon-Avon Blue Motors Limited, the Sunderland District Omnibus Co. Ltd., the Trent Motor Traction Co. Ltd., and the Tyne-side Tramways & Tramroads Company; Deputy Chairman of the British Electric Traction Co. Ltd.; and a Director of Tilling & British Automobile Traction Limited, the Electrical Finance & Securities Co. Ltd., and the Buenos Ayres & Pacific Railway Co. Ltd.

Mr. John Marchbank, General Secretary of the National Union of Railwaymen, who, as announced at page 875 of our last week's issue, has been elected Vice-Chairman of the National Council for the Omnibus Industry, was born at Lambfoot, Dumfries, in 1883. At the age of 18, after holding other non-railway jobs, he became a porter in the service of the Caledonian Railway



*Photo*

*[Lafayette]*

*Mr. John Marchbank*

General Secretary, N.U.R., who has been elected Vice-Chairman, National Council for the Omnibus Industry

became Assistant General Secretary of the N.U.R. in 1925, and in 1933 was elected a Member of the Trade Unions Congress General Council. In 1933 he was appointed General Secretary of the N.U.R. He became a Member of the London & Home Counties Traffic Advisory Committee in 1933; of the Transport Advisory Council (Road & Rail Traffic Act) in 1934; of the Railway Employment Safety Appliances Committee in 1934; and of the Standing Committee on Mineral Transport in 1934. Since 1935 he has been Vice-President of the International Transport Workers' Federation.

Mr. Frank Potter, Superintendent of the Line, G.W.R. is, we are pleased to hear, convalescing from his recent serious illness. In due course we hope to record his return to work.

Mr. Walter Edward Bennett, F.C.I.S., A.M.Inst.T., Secretary of Tilling & British Automobile Traction Limited, who, as we announced at page 875 of last week's issue, has been appointed Joint Secretary of the National Council for the Omnibus Industry (the joint industrial council for the privately-owned bus industry



of England & Wales), was educated at Wilton College, Hackney. He joined the secretarial department of the British Electric Traction Co. Ltd. in 1899, and acted as Assistant Secretary to a number of tramway and electric light companies associated with the B.E.T. In 1906 he was appointed Secretary and Accountant to the British Automobile Development Co. Ltd., which at that period was concerned with a motor manufacturing works at Loughborough in association with the Brush Electrical Engineering



**Mr. W. E. Bennett**

Secretary, Tilling & British Automobile Traction Limited, who has been appointed Joint Secretary, National Council for the Omnibus Industry

Co. Ltd. In the same year he also became Secretary and Manager of the Amalgamated Motor Bus Co. Ltd., which was then working a few buses in London that became the nucleus of the fleet of green "British" buses which continued to run until its absorption into the London Passenger Transport Board in July, 1933. In 1911 he added to his duties the secretaryship of the Barrow-in-Furness Tramways Committee of Management and of the Wrexham & District Electric Tramways Limited, both undertakings within the British Electrical Federation; and in 1912 became Secretary also of the Leamington & Warwick Electrical Co. Ltd., which at that time was in the same group. During 1912 the British Automobile Development Co. Ltd. changed its name to the British Automobile Traction Co. Ltd., and Mr. Bennett retained his position as Secretary, which indeed he continues to hold at the present time, having served that company continuously for 34 years. During 1913 the B.A.T. group became interested in Continental motorbus operation, and one of its associated undertakings was the Continental Motor Omnibus Association Limited, which worked British Daimler vehicles in Munich, Bavaria; Mr. Bennett was Secretary of this company

also. In 1928 the B.A.T. was reorganised, and in May of that year its name was changed to Tilling & British Automobile Traction Limited, consequent upon a closer association of interests with Thomas Tilling Limited in provincial bus companies. T. & B.A.T. now holds large interests in, and is represented on the boards of, 22 associated companies providing bus and motorcoach service in many parts of the United Kingdom. Since 1929 most of these provincial undertakings have had substantial railway shareholdings and co-ordination working arrangements between rail and road. Mr. Bennett is also a Director of Motor Coaches Limited.

Mr. Harold Clay, who, as announced in last week's issue, is one of the Joint Secretaries to the Joint Industrial Council for the Omnibus Industry, was born in 1886. Mr. Clay has been an active trade unionist from his early teens, when he took up work with the Leeds City Tramways and joined the Amalgamated Association of Tramway & Vehicle Workers. He gained experience of all the branch offices and was a National Executive Member and President of the union before being appointed a full-time official in 1913. The United Vehicle Workers' Union was formed from amalgamation and Mr. Clay acted for it in Yorkshire and the North-East Coast. He became Area Secretary for Yorkshire on the formation in 1922 of the Transport & General Workers' Union. In 1924 he took up a national position with the union, and in 1925 was made National Secretary of the Passenger Services Group. When Mr. Ernest Bevin became Minister of Labour, Mr. Clay was appointed Acting Assistant General Secretary to the union. He has taken an active part in many tramway matters and played a prominent part in the Tramway Inquiry of 1921 and was the leader before the Tramway Tribunal in 1924, and (for the men) in the Dublin Tramway Court of Inquiry in 1929. He has also taken the union cases under Section 93 of the Road Traffic Act, which have been heard at the Industrial Court. He was Joint Secretary and Leader for the Employees' side of the National Joint Industrial Council for the Tramway Industry until that body was merged with the National Joint Industrial Council for the Road Passenger Transport Industry. Mr. Clay is a member of the London & Home Counties Traffic Advisory Committee. On the formation of the National Joint Industrial Council for the Road Passenger Transport Industry he was elected one of the Joint Secretaries. Mr. Clay has represented his union at many international conferences and was a Fraternal Delegate from the T.U.C. to the Canadian Trades Union Congress. He takes a keen interest in adult education and was one of the early members of the Workers' Educational Association, and worked in the development of the education scheme run by the Transport & General Workers'

Union, for which he has taken a number of schools. His interest in travel and workers' holidays brought him into touch with the Workers' Travel Association, and for some time he has been a member of the management committee. He is also a member of the committee of Travco, an organisation formed to develop holiday camps.

Mr. G. E. Godfrey, who is now on Active Service with H.M. Forces, has been elected a Director of George Spencer Moulton & Co. Ltd.



**Mr. Harold Clay**

Assistant General Secretary, Transport & General Workers' Union, who has been appointed Joint Secretary, National Council for the Omnibus Industry

The directors of the Mexican Railway Co. Ltd. in their recently-issued report for the half-year to December 31, 1939, record with regret the death of Mr. John B. Body which took place on May 23. Mr. Body had been a member of the board for the past 20 years, during which period his great abilities and intimate knowledge of Mexico were of much value to the company.

The vacancy in the ranks of the Commissioners of the Victorian Railways has been filled by the appointment of Mr. R. G. Wishart to be a Commissioner. Mr. Wishart was formerly Assistant General Superintendent of Transportation. The other two Commissioners are Mr. Norman C. Harris (Chairman) and Mr. M. J. Canny.

Lt.-Colonel F. A. Cortez-Leigh, T.D., M.Inst.C.E., M.I.Mech.E., M.I.E.E., M.Inst.T., who retired from the position of Chief Electrical Engineer, L.M.S.R., in 1934, has recently been appointed a Welfare Officer north of the Thames under the Eastern Command & London Welfare Branch with headquarters at the Duke of York's, Chelsea, S.W.3. Colonel Leigh is directing his welfare activities from his own office, 27, Euston Square, N.W.1, telephone Euston 2100. The work deals with the welfare of the troops from all aspects.

## Questions in Parliament

### Protection of Trains

Mr. F. S. Cocks (Broxtowe—Lab.), on June 18, asked the Secretary of State for War whether he would take steps to protect railway locomotives with light bullet-resisting armour; and whether he would issue instructions to the effect that certain main-line trains should be accompanied by an armed guard and provided with a machine gun mounted, if necessary, on an armoured truck.

Mr. R. A. Eden (Secretary of State for War) replied: It would not be in the public interest to disclose information on this subject.

### Defence Measures

Mr. F. S. Cocks (Broxtowe—Lab.), on June 18, asked the Secretary of State for War whether he would consider supplying arms to railway signal boxes, especially in isolated areas; and whether adequate steps were being taken for the protection of locomotive sheds.

Mr. Anthony Eden, in a written reply, stated that Mr. Cocks's suggestions had been noted.

### Distribution of Shelters

Mr. G. Mathers (Linlithgow—Lab.), on June 18, asked the Secretary of State for the Home Department how many railway wagons and sheets had been detained with air-raid shelters; what amount of demurrage charges had been incurred; and who was responsible for payment of these charges.

Mr. W. Mabane (Parliamentary Secretary to the Ministry of Home Security) wrote in reply: Special arrangements were made early in 1939 between my department and the railway companies for the distribution of air-raid shelters throughout the country. The arrangements included the holding of the shelters until they were delivered. No question of demurrage therefore arises, and as no records were kept of the wagons, I have no information as to the number that may have been detained. It is not the practice to sheet this traffic.

### Radio in Main-Line Railway Hotels

Major Sir Jocelyn Lucas (Portsmouth South—C.), on June 19, asked the Secretary of State for War whether he would arrange that there should be at least one public radio set in all main-line railway hotels and others frequented by troops on leave or passing through, in order to ensure that any urgent Government instructions to troops might be brought to their notice without delay in the event of other means of communication being disorganised.

Mr. Richard Law (Financial Secretary to the War Office): The method of issuing instructions has received careful consideration, but my hon. and gallant friend will perhaps agree that it would not be advisable to make a statement on the subject.

### Grass on Railway Embankments

Major Sir Jocelyn Lucas (Portsmouth South—C.), on June 20, asked the Minister of Agriculture whether he would instruct county agricultural com-

mittees to consult with the railway authorities to see that grass cut on the embankments was not burned, but was either made into hay or silage.

Mr. R. S. Hudson (Minister of Agriculture) replied that arrangements had already been made with the railway companies whereby occupiers of land would be allowed to harvest the grass on railway embankments adjoining their land.

### Increase in London Fares

Sir Percy Harris (Bethnal Green—L.), on June 26, asked the Minister of Transport whether he had yet received the report of the Charges (Railway Control) Consultative Committee on the fares charged by the London Passenger Transport Board, and what action he proposed to take.

Sir John Reith: Yes, sir. The report is being published and copies will be available at the Vote Office today. The committee has recommended increases in certain of the board's road service fares, to produce a sum equal to about 10 per cent. of the receipts from those services, and also in some corresponding board railway fares. The chief increase on the road services, and the only increase on the railways, is the addition of ½d. to existing 1d. and 1½d. fares, and to a number of existing 2d. fares. An Order authorising the increases recommended by the committee has been made. They will come into effect generally on Wednesday, July 3.

### Travelling Troops' Welfare

In the House of Commons on June 26, allegations were made of inadequate facilities at Euston, St. Pancras, Liverpool Street, and King's Cross stations, for refreshments and rest for men of the armed Forces. It was stated that men had to lie on floors and platforms, often for hours, while waiting for trains, and that no provision was made for their welfare. Mr. Richard Law, Financial Secretary, War Office, said that negotiations were in progress to obtain better accommodation at St. Pancras, Liverpool Street, and Euston. The negotiations were not being held up by finance. The problem was to find space which could be taken without inconveniencing the flow of railway traffic.

## Staff and Labour Matters

### Control of Dock Labour

The emergency scheme adopted last October for the temporary transfer on a voluntary basis of dock labour from one port to another has been superseded by new arrangements announced by the Minister of Labour and National Service. The Minister's announcement states that measures must be taken to secure that ships are discharged with the utmost rapidity. To this end he proposes to make a number of changes in the existing arrangement for controlling the supply of dock labour. Liverpool, London, Newcastle, and

Edinburgh each will be the headquarters of a regional port labour inspector, who will have general supervision over the region and exercise control over the movement of dock labour. In the more important ports there will be one or more port labour inspectors in whom will be invested wide powers, including those of National Service officers, who, under the Defence (General) Regulations, are empowered to direct persons to perform such services as may be specified.

The conditions as to payments to transferred dockers, whether as wages, guaranteed minimum, or travelling and subsistence allowances, will be as provided in the agreement of October 6, 1939, between the Minister of Labour, the National Council of Port Labour Employers, and the Transport & General Workers' Union. All dock labour within each of the regions will be regarded as available for work as may be required in any port in the region. If the situation so requires, labour will be expected to transfer to ports outside the region.

These proposals were accepted at a conference held by Mr. Bevin on June 18 with representatives of both sides of the port transport industry. To facilitate the working of the new scheme, this conference also expressed agreement with Mr. Bevin's proposal to make an order requiring all employers engaged in the port transport industry to be party to any port registration scheme, and requiring all port transport workers to obtain their employment in accordance with provisions of the scheme.

**TWO NEW R.E.C. POSTERS.**—On behalf of the Railway Executive Committee, the London & North Eastern Railway Company has produced two striking posters illustrating the activities of the railways in wartime. They are from designs by Mr. Frank H. Mason, R.I. and are linked with the series of six posters incorporating the phrase "The lines behind the lines" which are now well known, and which were reviewed in THE RAILWAY GAZETTE of May 3. The new posters, which give an excellent impression of virility and consistency in service, bear the titles "Another convoy is discharged," and "Unceasing service," and are being placed on exhibition throughout the country forthwith.

### Forthcoming Meetings

July 4 (Thurs.)—**Great Southern of Spain Railway Co. Ltd.** (Ordinary general), River Plate House, E.C.2, at 2 p.m.

July 5 (Fri.)—**British Electric Traction Co. Ltd.** (Ordinary general), Winchester House, Old Broad Street, E.C., at 11.30 a.m.

### Forthcoming Events

July 6 (Sat.)—**Permanent Way Inst.** on, at Central Hall, London, S.W.1, 3.15 p.m. Annual summer general meeting.

## TRANSPORT SERVICES AND THE WAR-44

*Transport restrictions in new defence areas and to Ireland—Some further railway details of B.E.F. evacuation—Disused London tubes as air raid shelters—Transport and the French armistice—The Empire air lines*

Experiences in the Low Countries, and still more recently in France, have shown how military plans to repel invasion may be hampered to a dangerous extent if roads are blocked by refugees. Some first-hand impressions of the scenes when vast numbers of Belgian and French refugees were on the roads of Northern France were given at page 870 of last week's issue, when we published the last dispatch sent us by our French correspondent just before the fall of Paris. As it is of the utmost importance that members of the public generally should realise that, in the absence of specific instructions to the contrary, they should at all times stay where they are and ignore rumours, a statement was issued by the Minister of Home Security on June 20 stating categorically that "the duty of the public in the event of invasion is to remain where they are unless instructed to leave." This is not merely a matter of military necessity, but is regarded by the authorities as in the best interests of members of the public, particularly from the point of view of their safety. The Government is fully aware of the need, should this country be invaded, for taking steps to prevent roads being blocked, particularly by private motorcars, and also to ensure the safety of the civilian population so far as may be possible. The measures already prepared have now been put into effect, but it is not desirable in the national interest to state precisely what these are; appropriate information has been given to the individuals affected.

### Transport Restrictions in the New Defence Areas

Last week, at page 874, we announced briefly that the Minister of Home Security had made an Order declaring the twenty-mile coastal strip from the Wash to approximately the Eastern border of Sussex a Defence Area, and adding that the Regional Civil Defence Commissioners now had power to control movement into it. Under directions given by the Regional Commissioners for the Eastern and South-Eastern Regions under Defence (General) Regulation 16A, persons are prohibited from entering for the purpose of a holiday, recreation, or pleasure, these areas in East Anglia, Kent, and Sussex, which have been declared to be Defence Areas. A poster has been prepared for exhibition at railway stations throughout the country listing the stations in these Defence Areas, which are set out below. Where more than one station serves the same town or place, all such stations are included in this restriction. The directions do not apply to persons ordinarily resident in the areas. The official list of railway stations in the above-mentioned Defence Areas is as follows:—

Acle  
Adisham  
Aldeburgh  
Aldeby  
Allhallows  
Alresford (Essex)  
Althorne  
Appledore  
Ardleigh  
Ashford (Kent)  
Ash Town  
Aspell & Thorndon  
Attlebridge  
Aylesford  
Aylesham halt  
Aylsham  
  
Barham  
Barming  
Barons Lane halt  
Battle  
Battlesbridge  
Bealings  
Bearsted & Thurnham  
Beccles  
Bekebourne  
Belton & Burgh  
Beitring & Branbridges halt  
Beluncle halt  
Bentley  
Berney Arms  
Bexhill

Biddenden  
Billericay  
Birchington-on-Sea  
Bishopscourt  
Blake Hall  
Bodiam  
Bradfield  
Braintree & Bocking  
Brambledown halt  
Bramford  
Brampton (Suffolk)  
Brentwood & Warley  
Bridge  
Brightlingsea  
Broadstairs  
Brockford & Wetheringsett  
Brookland halt  
Brundall  
Buckenham  
Bungay  
Bures  
Burnham-on-Crouch  
Burnham Market  
Burston  
Buxton Lamas  
  
Caister-on-Sea  
Canterbury  
Cantley  
Catfield  
Cawston  
Chalkwell  
Chappel & Wakes Colne

Charing  
Chatham  
Chatham  
Chermsford  
Cheriton halt  
Chestfield & Swalecliffe halt  
Chilham  
Chislet Colliery halt  
Clacton-on-Sea  
Claydon  
Clenchwarton  
Cliffe  
Colchester  
Coldham  
Cold Norton  
Collington halt  
Coltishall  
Cooden Beach  
Corpus & Saxthorpe  
Corton  
County School  
Cranbrook  
Cressing  
Cromer  
Crowhurst  
Cuxton  
  
Darsham for Goxford  
Dartford  
Deal  
Denton halt  
Derby Road  
Dereham

Dersingham  
Diss  
Ditchingham  
Docking  
Doleham halt  
Dover  
Dovercourt Bay  
Downham  
Drayton for Costessy  
Dumpton Park  
Dunham  
  
Earls Colne  
Earsham  
Eastchurch  
East Farleigh  
East Horndon  
East Malling halt  
East Minster-on-Sea  
East Rudham  
Eastry Junction  
East Winch  
Elham  
Ellingham  
Elm Park  
Elvington  
Emmett  
Etchingham  
Eysford  
Eythorne

Fakenham  
Fambridge  
Farningham  
Faversham  
Fawkham  
Feering halt  
Felixstowe  
Felmingham  
Finningham  
Flordon  
Folkestone  
Fonnett  
Foulsham  
Framlingham  
Fransham  
Frinton-on-Sea  
Fritenden Road  
  
Gayton Road  
Giddeston  
Gillingham (Kent)  
Gorleston-on-Sea  
Goudhurst  
Grain Crossing halt  
Gravesend  
Grays  
Great Bentley  
Great Omsby  
Greatstone-on-Sea  
Greenhithe  
Grinstead Road  
Grove Ferry  
Guestwick  
Guntton  
Guyhirne

Hacheston halt  
Haddiscoe  
Halesworth  
Halling  
Halstead  
Ham Street & Orlestone  
Hardingham  
Harleston  
Harold Wood  
Harrietsham  
Harty Road halt  
Harwich—Parkeston Quay  
Harwich Town  
Hastings  
Hasfield Peverel  
Haughley  
Hawkhurst  
Heacham  
Headcorn  
Hellesdon  
Hemby  
Herne Bay  
Higham  
High Halden Road  
High Halstow halt  
Hilgay  
Hillington  
Hindolvestone  
Hockley  
Holham  
Hollingbourne  
Holme Hale  
Holt  
Homersfield  
Honing  
Hopton  
Horham

Hornchurch  
Hothfield halt  
Hunstanton  
Hythe (Kent)  
Hythe (Suffolk)  
  
Ingatstone  
Inworth  
Ipswich  
  
Junction Road halt  
  
Kearsney  
Kelvedon  
Kemsley halt  
Kenton (Suffolk)  
Kimberley Park  
King's Lynn  
Kirby Cross  
Knowlton  
  
Laindon  
Langford & Ulting  
Laxfield  
Leigh-on-Sea  
Leiston  
Lenham  
Lenwade  
Leysdown  
Lingwood  
Longfield halt  
Lowestoft  
Low Street  
Lydd  
Lyminge

Magdalen Road  
Maidstone  
Maldon East & Keybridge  
Maldon West  
Malling  
Manningtree  
March  
Marden  
Margate  
Mark's Tey  
Marlesford  
Martham for Rolesby  
Martin Hill  
Massingham  
Mellis  
Melton  
Melton Constable  
Mendlesham  
Meopham  
Middie Drove  
Middle Stoke halt  
Middleton Towers  
Milton Range halt  
Minster Junction  
Minster-on-Sea  
Mistley  
Mountfield halt  
Mundesley-on-Sea  
Murrew

Narborough & Pentney  
Needham  
New Hythe  
Newington  
New Romney  
North Elmham  
Northfleet  
Northiam  
North Walsham  
North Weald  
North Wootton  
Norwich

Ockendon  
Ongar  
Ore  
Orwell  
Oulton Broad  
Overstrand  
  
Parham Holt  
Paston & Knappton  
Pitsea  
Puckley  
Port Victoria  
Potter Heigham  
Prittlewell  
Pulham St. Mary  
Pulham Market  
Purfleet

Queenborough  
  
Rainham (Essex)  
Rainham (Kent)  
Ramsgate  
Rayleigh  
Raynham Park  
Reedham

Reepham (Norfolk)  
Richboro' Castle halt  
Robertsbridge  
Rochester  
Rochford  
Rolvenden  
Rosherville  
Ryburgh  
Rye  
  
St. Leonards  
St. Olaves  
Salehurst halt  
Salhouse  
Sandgate  
Sandleigh Junction  
Sandwich  
Sandwich Road  
Saxmundham  
Sedgeford  
Selling  
Sharnal Street  
Sheerness  
Shenfield & Hutton  
Shepherds Well  
Sheringham  
Shoeburyness  
Shorncliffe  
Sidersand halt  
Sidley  
Sittingbourne  
Smeeth  
Smeeth Road  
Snailham halt  
Snectisham  
Snodland  
Snowdown & Nonington halt  
Sole Street  
Somerleyton  
Southend  
Southfleet  
South Lynn  
Southminster  
Stalham  
Stanford-le-Hope  
Stanhoe  
Staple  
Staplehurst  
Stoke Junction halt  
Stone Crossing halt  
Stone Hall & Lydden halt  
Stow Bardolph  
Stowmarket  
Stradbroke  
Strood  
Sturry  
Sudbury (Suffolk)  
Swaffham  
Swainthorpe  
Swale halt  
Swanley  
Swanscombe halt

Tenterden  
Ternington  
Teston Crossing halt  
Teynham  
Thames Haven  
Thorington  
Thorpe Bay  
Thorpe-le-Soken  
Thorpeness  
Three Oaks & Guestling halt  
Thursford  
Thuxton  
Ticehurst Road  
Tilbury  
Tilmanstone Colliery halt  
Tipree  
Tivetshali  
Tollesbury  
Tolleshunt D'Arcy  
Tolleshunt Knights  
Tovil  
Trimingham  
Trimley

Upminster  
Uralite halt  
  
Walmer  
Walpole  
Walsingham  
Walton-on-the-Naze  
Warlingworth  
Wateringbury  
Weeley  
Weeley-on-Sea  
Wendling  
Westcliff-on-Sea  
Westenhanger  
Westfield  
Westgate-on-Sea  
West Runton  
Weybourne



White Colne  
White Notley  
Whittingham  
Whistable  
Whitwell & Reepham  
Wickford  
Wickham Bishops  
Wickham Market  
Wighton halt  
Wilby  
Winchelsea

Wingham  
Wisbech  
Wisbech St. Mary  
Witham  
Wittersham Road  
Wivenhoe  
Wolferton  
Woodbridge  
Woodham Ferrers  
Woodnesborough  
Woodnesborough Road

Worlingworth  
Worstead  
Wrabness  
Wrotham & Boro' Green  
Wroxham  
Wye  
Wymondham  
Yalding  
Yarmouth  
Yaxham

A notice issued on behalf of the Eastern Regional Commissioner stated that no person should enter the areas after June 21, or having entered them after that day should remain for the purpose of a holiday, recreation, pleasure, or as a casual wayfarer. Last Saturday (June 22) the following notice was issued on behalf of all the British railway companies: "Notices giving full particulars of the railway stations within the areas are exhibited adjacent to railway booking offices throughout the country, and the attention of those who ask for tickets is drawn to the provision of the order by the Ministry of Home Security. It is pointed out that they will be required to satisfy the police or military at the destination end that they are entitled to enter the area."

### Transport to Ireland

An order has been made by the Northern Ireland Minister of Home Affairs, providing that, after July 1, a person who shall have entered Northern Ireland from any place outside the United Kingdom of Great Britain and Northern Ireland shall, if so required by any constable, satisfy the police authorities that his presence in Northern Ireland is essential for the purpose of transacting legitimate business of importance to the national interests of the United Kingdom.

The British & Irish Steam Packet Co. Ltd. has announced that since Tuesday, June 18, 1940, and until further notice, the passenger sailings between Liverpool and Dublin are twice weekly in each direction. The sailing days are Mondays and Thursdays from Dublin, and Wednesdays and Saturdays from Liverpool.

### The Great B.E.F. Evacuation

"I should be very glad if you would convey the thanks of the Army Council to the management and staff of those railway companies which have played such an important part in the evacuation of our troops from Flanders. We fully realise the magnitude of the task which was asked of them, the successful accomplishment of which was due to the excellent organisation and willing co-operation of all grades of the railway companies concerned. We are all most grateful." In these words (addressed to Sir Ralph Wedgwood, Chairman of the Railway Executive Committee), the Secretary of State for War, Mr. Anthony Eden, set the seal of official approval on the work of the British railways in transporting under difficult emergency conditions 319,116 officers and men evacuated from Dunkerque. Such details as may be published with prudence during the war were given in our June 7 issue, and it is fitting that some of the operating achievements revealed by a review of the completed job should be recorded as a sequel to the main story.

There was not a single locomotive failure or derailment throughout the whole series of operations. In the interests of safety, signalmen were exempted from the very lengthy hours worked by most other grades of railwaymen during the intense period of the movements. Locomotive drivers, firemen, and guards in some cases worked for tremendously long periods, but signalmen worked only their prescribed hours, and the staffs of signal boxes were strengthened as necessary. Previous details of the movements gave some idea of the heavy burden which fell on the Southern Railway, and it is interesting also to record that about 50 per cent. of all the trains both began and ended their journeys on this system. It is also confirmed now that the Southern Railway was able to supply locomotive power for all the trains from Southern Railway ports up to the points of handing the traffic over at junctions with the other main-line railways. The pool of rolling stock supplied by the four main-line railways totalled nearly 2,000 vehicles. As already recorded, the 186 trains were supplied as follow: G.W.R. 40, L.M.S.R. 44, L.N.E.R. 47, S.R. 55. Another feature which added to the operating difficulty was the uncertainty about which ports of

arrival would be used, and it was necessary for the Southern Railway to be prepared to run trains from as many as seven ports in the south-east of England. In fact, 380 trains departed from the main port and three other ports were used by 83, 76, and 64 trains respectively, while the balance ran from two further places. During the main evacuation period 17 ambulance trains were also worked, in addition to a further 620 special Military, Naval, and Air Force trains from points on the Southern Railway to other points on the same system or to other companies.

### Official Appreciation

Widespread official and private appreciation has been expressed to the Railway Executive Committee and to the individual railway companies, and, from the many letters we have seen, we quote the following:—

*From Sir John C. W. Reith, Minister of Transport, to Sir Ralph L. Wedgwood, Chairman of the Railway Executive Committee.*

"MY DEAR CHAIRMAN,—I am writing to congratulate the railways on their masterly handling of the train movements of the British and Allied troops evacuated from France. To organise and carry through without a hitch an operation of this magnitude is an achievement of which anybody and everybody may be proud, especially at a time when the railways were heavily engaged otherwise on the haulage of Government traffic and on long and considerable movements of evacuated children. I should be glad if you would convey to managements and all ranks of railway employees the Government's high appreciation of the splendid way in which they are playing their part in the national war effort. Whatever calls it may be necessary to make on the efficiency and endurance of railwaymen, they will surely be found ready and willing."

*From Mr. R. H. Hill, Railway Control Officer, Ministry of Transport, to Mr. E. J. Missenden, General Manager of the Southern Railway.*

"MY DEAR MISSENDEN,—Most thankful congratulations to you and your colleagues of the Southern Railway for the great part played in the evacuation of the B.E.F. I knew the Southern would rise to the occasion whatever it might involve."

*From Major-General Gilbert S. Szlumper, Director-General of Transportation & Movements, War Office, to Mr. E. J. Missenden, General Manager of the Southern Railway.*

"MY DEAR MISSENDEN,—In due time you will doubtless receive an official letter of appreciation from the War Office, for the very great services the Southern Railway has rendered in connection with the return of the B.E.F. from Northern France. But apart from whatever sentiments may be expressed in that letter, I must send a personal line to tell you of the pride and admiration I feel at the magnificent effort you and the whole of the S.R. Team have exerted, and the astounding share they have taken in successfully bringing back the men from Flanders to their Stations in this country. Knowing the S.R. staff as I do, I had no doubt what their answer would be when the War Office asked them to perform the impossible—but they have achieved even more than I expected. I doubt if any other railway in the world has a staff so able, so cool and possessing the necessary initiative to deal with so formidable a task. I am envious of you being their leader, but nevertheless, I send to you and through you, to every member of the staff, my heart-felt admiration and congratulations. Bravo the Southern—go on thus to victory!"

### The Merchant Navy

The following tribute to the Merchant Navy, from Mr. R. P. Biddle, Docks & Marine Manager, Southern Railway, Southampton, appeared in the *Southern Daily Echo*:—

"SIR,—For the part they have played in the recent evacuation from Dunkerque this country will never cease to thank our Navy and our Air Force. They have been praised—and rightly praised—by our Prime Minister and in talks broadcast by the B.B.C. But has sufficient acknowledgement been given to the officers and men of the Merchant Navy for their heroic efforts? Here in Southampton we are accustomed to all that is best in the Merchant Navy. It is taken for granted. I speak with some knowledge of the experience of the Merchant Navy at Dunkerque. Nineteen vessels belonging to the company with which I am associated took part in the evacuation. Three were sunk by enemy action; four others are seriously damaged. I have had first-hand accounts of the difficulties of the task that faced the masters and crews. They were immense; but it was not easy to extract the details from those concerned. But those who are associated with marine service know of these perils. We know now what the crews of our hospital ships had to endure; vicious attacks in daylight by German airmen on ships clearly marked in accordance with the Geneva Convention, and because of this same Convention, completely un-

protected. In one instance a hospital ship riddled with shot and shell stopped to pick up an airman who had 'baled out.' One of the A.Bs. was lowered on to the ship's belting to effect the rescue when the German airmen returned and from a height of 15 ft. machine-gunned both the airman and the rescuer! So, when we express our thanks and appreciation to the Royal Navy and the Royal Air Force, let us complete the trinity by Divine thanks for the Merchant Navy, and a thought for the bereaved who have lost those who were dear to them."

#### Other Special Railway Movements

Other recent special demands on the British railways have included the provision of special trains for transporting Dutch, Belgian, and French adults and children who have sought sanctuary in this country. Many of these visitors are unable to speak more than a few words of English and interpreter services were arranged accordingly. Further unusual demands have been the conveyance of Americans *en route* to Ireland for embarking at Galway and other ports in Eire for the U.S.A.; the transport of aliens to concentration centres; and the conveyance of prisoners of war to camps.

#### Disused Tubes as Public Air Raid Shelter

The formal opening on Monday last (June 24) by the Mayor of Southwark of the air raid shelter under Borough High Street which has been equipped by the Borough of Southwark in the disused tubes of the old City & South London Railway has drawn attention once again to the ingenious use to which have been put the portions of tube disused since 1900, some details of which have already been published in these columns, notably at page 422 of our March 22 issue. When the City & South London Railway was promoted it was the intention of the projectors to use it as a cable subway similar to the earlier one—the Tower Subway—a little further down the river. The first section extended, from a terminus at King William Street, under the River Thames in twin tubes to Stockwell. This was formally inaugurated by the Prince of Wales (later King Edward VII) on November 4, 1890, and was opened to the public on December 18 of the same year. Less than 10 years later the line was extended northward to Moorgate Street and when this was opened, on February 25, 1900, new tunnels were brought into service from the Borough, and the original section was abandoned for a length of about 3,800 ft.

At the time of the September, 1938, crisis, substantial concrete bulkheads were inserted at the point near the Borough station where the new lines diverged from the original tubes, thus isolating the disused tubes under the river from the existing running lines, with the object of localising the effects of flooding the disused tunnels should they be damaged by aerial bombardment. Early in September, 1939, the London Passenger Transport Board (the successor to the C. & S.L.R.) drew the attention of the Home Office to the possibility of using part of the abandoned tunnels for civil defence shelter purposes, and an examination was at once made by a Regional Technical Adviser of the Home Office and by the Borough Engineer & Surveyor of the Borough of Southwark, who reported thereon to the Home Office and the Borough Council respectively. On October 24, 1939, at the request of the Member of Parliament for North Southwark, the Home Secretary (Sir John Anderson) agreed in the House of Commons to examine the project, and formal written approval was received by the Town Clerk of Southwark on January 15 last. Accordingly the portions of the two disused tunnels between the River Thames and Borough station were let by the London Passenger Transport Board to the Council of the Metropolitan Borough of Southwark, for use as air raid shelters, under Heads of Agreement dated January 29, 1940, for 10 years from that date, if the present war with Germany lasts as long. If not, the term at the acknowledgment rent which at present applies shall be determined at the expiration of six months from the end of the war, but the Borough Council may continue the use of the tunnels for a further period at a commercial rent to be agreed. The construction of the entrances and other works necessary to make these tunnels suitable for use as shelters has been carried out at the expense of the Borough Council.

The two tubes, which are each 10 ft. 2 in. in diameter, are at depths varying from 50 ft. to 70 ft. below ground, and

the length made available, from the Borough station northward to the south bank of the Thames, is approximately 2,250 ft. The design and construction of the tunnel entrances and equipment were placed by the Borough Council in the hands of Messrs. Mott, Hay & Anderson, Consulting Civil Engineers, and the constructional work was entrusted to Kinnear Moodie & Company, Messrs. Vigers & Company, Chartered Surveyors, undertook the survey of all properties adjoining the works. As soon as official approval of the scheme was received, the contractors assembled the plant and materials, but the prolonged severe weather conditions in the early part of this year entailed a delay of about six weeks. Concrete bulkheads were inserted in the old tubes a short distance south of the river in order to isolate the lengths to be used for shelter. Eight entrance staircases are being provided, and two are now available for use, thus making it possible for the Mayor of Southwark formally to declare the shelter open. These staircase tunnels are of 9 ft. 9 in. internal diameter, and are formed of precast reinforced-concrete rings 21 in. in width. The sections are bolted and grouted, thus making the whole watertight in a way similar to that used in the construction of the London tube railways. Very considerable difficulties were experienced in sinking the staircase tunnels owing to the existence of loose gravel beds containing water. The tunnelling was carried out under compressed air, but the looseness of the soil resulted in heavy escape of the air, and accordingly the Consulting Engineers decided to adopt the Joosten chemical process of soil consolidation, which was fully described and illustrated in THE RAILWAY GAZETTE of February 2, 1940. The process is the invention of a Dutch engineer, Dr. Hugo Joosten, and the work is carried out in this country by John Mowlem & Co. Ltd. During the excavations to form the tunnel entrance near the Church of St. George the Martyr, many human remains were found. These were placed in caskets and reinterred at Brookwood Cemetery by the London Necropolis Company.

The main tunnels, which constitute the air raid shelter proper, are being provided with concrete floors and equipped with electric lighting, seating, and sanitary and other fittings. Consideration is also being given to the provision of ventilating plant, but at present the flow of air resulting from the eight entrances is deemed sufficient. Incidentally, these entrances are approximately 300 yd. apart, so that any point in a wide area is within a reasonable walking distance during the "safe" time available after an air raid warning has been given. The shelter is regarded as well capable of accommodating the 11,280 persons estimated on census returns to be in the street at one time within a distance of 300 yd. from the tunnel entrances, but if required the shelter could hold at least 14,000 persons without overcrowding. The approximate cost of the scheme is £50,000. This is the first deep public shelter to be provided in the London area, and is one of the largest air raid shelters in Great Britain.

#### Private Air Raid Shelter in Disused Tube Station

The public air raid shelter of the Southwark Borough Council is entirely on the south side of the River Thames, and for obvious reasons the under-river portions of the old tube tunnels have been isolated and virtually abandoned. North of the river, the remaining portions of tube and the station tunnel of the former King William Street terminus are now completely equipped as a private air raid shelter for the benefit of the 2,000 employees of offices in Regis House and King William Street House. As we recorded briefly at page 422 of our March 22 issue, the old station tunnel, together with a part of the two running tunnels, have been rented by the London Passenger Transport Board, under a licence granted on January 9, 1940, to the United City Property Trust Limited, the owner of Regis House, an office building now erected on the site of the former King William Street station, and also the owner of another office building (in Arthur Street) known as King William Street House. The licence to occupy these old tube works for use as an air raid shelter is granted for a term of 10 years from September 29, 1939, and the rental paid is an acknowledgment one, the licensee company assuming responsibility for all outgoings and for the cost of the work of fitting the tunnels for use as an air raid shelter, and also providing the alternative means

of exit. One access to the old tunnels is by way of the basement of Regis House, using the shaft of the original emergency stairway of the old tube station. The new means of access has been provided by sinking a shaft 64 ft. deep in Arthur Street, to which access is obtained from the basement of King William Street House. A spiral staircase has been installed in this new shaft and gives direct access to the extreme south end of the old station tunnels. In the station tunnel itself a mezzanine floor of steel and concrete has been inserted so as to increase the accommodation of the shelter. Electric lighting has been fitted throughout, and adequate arrangements made for ventilation and emergency sanitation. In all, some £20,000 has been expended on providing a new access shaft and equipping the premises as a shelter. On page 898 we reproduce two pictures showing respectively the condition of the King William Street station tunnel a year ago, and a portion of the present shelter.

#### France

As the result of the French request to Germany on June 16 for an armistice, the German Government asked the French Authorities at Bordeaux (to which the French Government had been transferred, after a brief period at Tours, since its withdrawal from Paris) to send a delegation to learn the German terms. Hitler chose as the scene of the ceremony the railway carriage in the forest of Compiègne where Marshal Foch granted the Germans an armistice on November 11, 1918. This famous vehicle had been attached to the train of Marshal Foch, which had been shunted during the night on a military line at Rethondes, some 4 miles east of Compiègne. It was a dining car of the International Sleeping Car Company and bore the number 2419. After 1918 it was preserved for a time at Compiègne and subsequently a block of granite bearing the date November 11, 1918, and an inscription was installed at the precise spot of signature. The following is a translation: "Here on November 11, 1918, succumbed the criminal pride of the German Empire, vanquished by the free peoples it attempted to enslave." On March 20, 1921, it was announced in Paris that the famous carriage was to be preserved as a permanent memorial in the courtyard of the Hôtel des Invalides in Paris; it had then recently been used by President Millerand on his visit to Verdun. For some years this famous vehicle remained in Paris but in 1927 it was transferred to Compiègne and placed in a circular clearing, with a radius of 310 yd., in the forest. A shelter was built round it and visitors were admitted on payment of 1 franc.

When the French representatives were received on June 21, a large area round the carriage had been railed off and was guarded by sentries, and the commemorative plaque was covered by the war standard of the German Reich. The recent ceremony and its scene were characterised by that high sense of the theatrical which has marked the activities of the Third Reich. According to Berlin reports, Hitler ordered Marshal Foch's railway carriage, and other memorials to the 1918 armistice, to be taken to Berlin, and it is stated that preparations have already been completed for this removal.

The German terms for an armistice were accepted by the Bordeaux Government of Marshal Pétain on Saturday last, June 22. Of 24 Articles of the Armistice, most were concerned with purely military matters and the following cover the principal points affecting the civil life of France in the immediate future:—

(Article 2) For security of German interests, territory north and west of following line to be occupied: Geneva, Dole, Chalon-sur-Saône, Paray Le Monial, Moulins, Bourges, Vierzon, thence to 20 kilometres east of Tours, thence south parallel to Angoulême railway to Mont de Marsan and St. Jean Pied de Port. The areas not yet occupied in this territory to be occupied immediately on conclusion of the present convention.

(Article 13) All establishments and military tools and stocks in occupied territory to be handed over intact. Ports, permanent fortifications, naval building yards, to be left in their present state and not destroyed or damaged. The same to apply to all means of communication, particularly railways, roads, canals, telephones, telegraphs and navigational and coast lighting marks. Material for repairs to be made available. [In the Articles of the Armistice as issued by the Official German News Agency, Article 13 also includes the requirement that the French Government undertakes to ensure that skilled labour, rolling stock, and other means of

transport are available in amount corresponding to the normal needs of peace.]

(Article 15) French Government to facilitate the transfer of merchandise between Germany and Italy across unoccupied territory.

It was provided by Article 23 that the Armistice would come into force as soon as the French Government had concluded a similar agreement with the Italian Government, and that cessation of hostilities should take place six hours after the Italian Government had informed Germany of such conclusion. The armistice between France and Italy was signed in Rome at 6.15 p.m. (B.S.T.) on June 24, and the German Government was notified at 6.35 p.m. Accordingly, the cease-fire order was given, to apply at 12.35 a.m. on June 25. The last communiqué issued by the French High Command announced that Italian troops had occupied Menton, on the Mediterranean coast, close to the Italian frontier.

According to a French radio announcement, all passenger train services north of the Bordeaux—Toulouse—Sète—Avignon line were cancelled at midnight on June 18-19. It was added that trains were being maintained for the time being on the Bordeaux—Toulouse—Sète line and to points further south. Presumably the French train services in both German-occupied territory and in "French" France will be reorganised on a civil basis after the disposition of the German occupation Forces has been effected. According to a German radio announcement of June 24, quoted by Reuters, railway communication between Paris and Berlin will be resumed within a few days.

The terms of the Italian armistice are concerned chiefly with the demilitarisation of certain zones in France and the French African Colonies. One provision, however, is that Italy is to have full rights over the port of Djibouti and the French section of the Djibouti—Addis-Ababa Railway.

#### Air Lines

Air France suspended its air line between France and England on June 13. British Overseas Airways continued to maintain a daily service between the two countries until June 16. Operating from the British airport at Heston, B.O.A. aircraft flew to Paris for the last time on June 10; the service to France was then maintained to Tours until June 14; and flights were made on June 15 and 16 to a point further south in order to facilitate contact with the Bordeaux Government. No day has passed since the beginning of the war without British air liners being in the air.

The entry of Italy into the war resulted in the temporary suspension of the Empire air routes. They ran until June 11, although on the previous day they omitted the usual calls at Rome and Brindisi. New arrangements came into force on June 19 when British Overseas Airways flying boats left Durban and Sydney, inaugurating what is provisionally planned to be a weekly service in both directions between South Africa and Australia. It is hoped to increase this frequency later. The resumed service follows the Empire air routes, passing through Portuguese East Africa, Tanganyika, Kenya, Uganda, Anglo-Egyptian Sudan, Egypt, Palestine, Iraq, Iran, India, Burma, Malaya, and the Netherlands Indies. The eastern end of the route will continue to be operated by the Australian company, Qantas Empire Airways. The air service between Sydney and Auckland, New Zealand, flown by Tasman Empire Airways, is also continuing to operate. Pan-American Airways has announced that a weekly service between Auckland, New Zealand, and California will begin on July 12.

The regular twice-weekly service between London and Lisbon via Bordeaux was suspended until further notice after the arrival of the June 18 aeroplane in England; but contact is being maintained with non-stop flights by flying boats as occasion requires. Passenger transport on this service began on June 4.

It is reported that a thrice-weekly air service between Helsinki and Petsamo, via Rovaniemi, was begun last week.

Air connections between Helsinki and Riga have been discontinued since the military occupation of Estonia by Russia.

A once-weekly Japanese air line between Japan and Thailand (Siam) was inaugurated from Tokio on June 10, and from Thailand on June 17.



## NOTES AND NEWS

**Home Railway Dividends.**—Contrary to their usual practice, the four main-line railway companies have decided this year to make their half-yearly dividend statements on the same day—July 26.

**Mount Lyell Mining & Railway Co. Ltd.**—Warrants for the dividend of 9d. a share payable in Melbourne on June 17 have been posted to shareholders on the London register.

**Rohilkund & Kumaon Railway Co. Ltd.**—The ordinary stock transfer books will be closed from July 12 to 26, 1940 (both days inclusive) for the purpose of preparing the dividend warrants for the 6 months ended March 31, 1940.

**Mogyana Railway Bonds Redemption.**—At meetings of the bondholders held on June 20, resolutions approving the scheme of arrangement, details of which were given in THE RAILWAY GAZETTE of June 14, were passed by the requisite majorities.

**Canadian National Earnings.**—Gross earnings of the Canadian National Railways in May, 1940, were \$20,281,335 an increase of \$3,439,069 in comparison with May, 1939. Operating expenses amounted to \$16,769,401, with an increase of \$1,400,169, resulting in net earnings of \$3,511,934, which were \$2,038,900 higher than those for May, 1939. Aggregate gross earnings of the first five months of 1940 totalled \$91,321,614, an increase of \$18,829,605 in comparison with the first five months of 1939, and the aggregate net earnings of \$410,638,876 compare with a deficit of \$493,321.

**Brazilian Payments.**—Two further Orders have been made under the Defence (Finance) Regulations 1939. These are the Defence (Finance) (Restriction of Payments) (No. 4) Order, 1940 (S.R. & O., 1940, No. 1039), and the Defence (Finance) (Export of Goods) (No. 4) Order, 1940 (S.R. & O. 1940 No. 1040). Under these Orders, as from June 24, all commercial or current

financial payments to residents in Brazil from residents in the United Kingdom may be made only in sterling to a Brazilian special account with a United Kingdom bank, registered as such by the Bank of England under the Defence (Finance) Regulations; and all exports from the United Kingdom to Brazil must be paid for in sterling from a Brazilian special account.

**Export Groups.**—The Board of Trade Journal for June 20 shows that 206 export groups have been formed. Details of most of those of interest to our readers have been given in previous issues of THE RAILWAY GAZETTE. Among recent groups registered are the bearing Manufacturers' Export Group (chairman, Mr. C. Pryke, secretary, Messrs. Peat, Marwick, Mitchell & Company, address, 29, Arthur Road, Wimbledon Park, S.W.19); Rail & Telegraph Accessories Export Group (chairman, Mr. K. S. Peacock, Secretary, Mr. E. L. Heathcote, F.C.A., address, 25, Bennetts Hill, Birmingham, 2); Railway Switches & Crossings Export Group (chairman, Mr. G. D. Cunningham, Secretary, Messrs. Maine & Company, address, 3, Victoria Street, S.W.1).

**Buenos Aires Lacroze Tramways.**—Meetings of the debenture holders of the Buenos Aires Lacroze Tramways Co. Ltd. sanctioned on June 21 a scheme of capital re-organisation. As from February 16, 1939, the transport undertaking of the company has been the property of the City of Buenos Aires Transport Corporation which, under the powers of the Argentine Law No. 12,311 of 1936, now controls the passenger transport undertakings in the city and suburbs of Buenos Aires, except the railways under national jurisdiction. The consideration for the purchase of the company's undertaking was ordinary shares in the corporation, and the company is now a holding concern with assets consisting entirely of ordinary shares of the corporation to the value of 29,953,000 paper pesos. Under the scheme now sanctioned the

ordinary capital of the company is to be reduced from 25,000,000 paper pesos to 3,750,000. The dates of maturity of the 5 per cent. first debenture stock, of the 5 per cent. extension mortgage debentures, and of the 5 per cent. consolidated mortgage debentures are to be extended to 1965, and arrears of interest are to be cancelled. The consolidated debentures are to become 3 per cent. consolidated income debentures with interest starting on November 1, 1941.

## British and Irish Railway Stocks and Shares

Stocks	Highest 1939	Lowest 1939	Prices	
			June 25, 1940	Rise or Fall
<b>G.W.R.</b>				
Cons. Ord. ...	38	21½	23½	-2½
5% Con. Pref. ...	92	71	63½	-7
5% Red. Pref. (1950) ...	98	83	97½	—
4% Deb. ...	103	91	92½	—
4% Deb. ...	105½	93½	98½	—
4% Deb. ...	110	99	100½	—
5% Deb. ...	121	109½	108½	-4
2½% Deb. ...	63½	54	58	—
5% Rt. Charge ...	117	104	99	—
5% Cons. Guar. ...	111	96½	93½	-1
<b>L.M.S.R.</b>				
Ord. ...	17	9½	10	-1½
4% Pref. (1923) ...	46½	20	24	-2
4% Pref. ...	63½	37½	38½	-2
5% Red. Pref. (1955) ...	83	58½	67½	—
4% Deb. ...	98	85	84	-2
5% Red. Deb. (1952) ...	109	101½	104	-1
4% Guar. ...	87½	73	68½	-3
<b>L.N.E.R.</b>				
5% Pref. Ord. ...	5½	3½	2	-1
Def. Ord. ...	3½	1½	1½	-1
4% First Pref. ...	38½	19	23	-1
4% Second Pref. ...	15	7½	7½	—
5% Red. Pref. (1955) ...	55	38	40	-5
4% First Guar. ...	78½	60	59½	-1
4% Second Guar. ...	68½	47	43½	-3
3% Deb. ...	71½	57	57	—
4% Deb. ...	93	76	78	2
5% Red. Deb. (1947) ...	106½	98	99	—
4% Sinking Fund Red. Deb. ...	104½	96	98½	1
<b>SOUTHERN</b>				
Pref. Ord. ...	78	46½	38	-2
Def. Ord. ...	19½	7	7½	—
5% Pref. ...	100	76	63½	-7
5% Red. Pref. (1964) ...	102½	94	97½	—
5% Guar. Pref. ...	116½	103	93½	-4
5% Red. Guar. Pref. (1957) ...	112½	102½	100½	—
4% Deb. ...	103	91½	87½	—
5% Deb. ...	118½	109½	108½	—
4% Red. Deb. (1962-67) ...	106	98	97½	—
4% Red. Deb. (1970-80) ...	102	96	95½	—
<b>FORTH BRIDGE</b>				
4% Deb. ...	98½	81	87½	—
4% Guar. ...	95	80	85½	—
<b>L.P.T.B.</b>				
4½% "A" ...	115	103	105	—
5% "A" ...	123	106½	109	—
4½% "T.F.A." ...	105	100½	102	—
5% "B" ...	117½	102	104½	—
"C" ...	84	63½	25	-7½
<b>MERSEY</b>				
Ord. ...	24½	17½	20½	—
4% Perp. Deb. ...	93½	88½	91	—
3% Perp. Deb. ...	77	65½	60½	—
3% Perp. Pref. ...	55	49½	54½	—
<b>IRELAND</b>				
<b>BELFAST &amp; C.D.</b>				
Ord. ...	6	3	4	—
<b>G. NORTHERN</b>				
Ord. ...	6	2½	4	—
<b>G. SOUTHERN</b>				
Ord. ...	13½	8	11	+1
Pref. ...	26	10	22½	—
Guar. ...	40	22	29½	—
Deb. ...	57	45½	52½	+1

## Irish Traffic Returns

IRELAND		Totals for 24th Week			Totals to Date		
		1940	1939	Inc. or Dec.	1940	1939	Inc. or Dec.
		£	£	£	£	£	£
Belfast & C.D. (80 miles)	pass.	4,093	3,178	+ 915	59,958	47,982	+ 11,976
	goods	478	435	+ 43	11,700	10,374	+ 1,326
	total	4,571	3,613	+ 958	71,658	58,356	+ 13,302
Great Northern (543 miles)	pass.	13,150	11,400	+ 1,750	249,650	223,150	+ 26,500
	goods	13,400	9,600	+ 3,800	283,150	243,050	+ 40,100
	total	26,550	21,000	+ 5,550	532,800	466,200	+ 66,600
Great Southern (2,076 miles)	pass.	34,738	38,355	- 3,617	757,387	753,502	+ 3,885
	goods	42,608	36,191	+ 6,417	1,061,316	979,685	+ 81,631
	total	77,346	74,546	+ 2,800	1,818,703	1,733,187	+ 85,516
L.M.S.R. (N.C.C.) (271 miles)	pass.	6,500	5,470	+ 1,030	110,760	86,670	+ 24,090
	goods	3,280	2,860	+ 420	84,410	70,480	+ 13,930
	total	9,780	8,330	+ 1,450	195,170	157,150	+ 38,020

## RAILWAY AND OTHER REPORTS

**Chilean Northern Railway Co. Ltd.**—The net loss for the year 1939 was £19,668 against £20,201 for 1938, increasing the debit carried forward to £682,235. The amount due to the Antofagasta (Chili) & Bolivia Railway at December 31 last was £391,458, against £358,456 a year earlier.

**Southern San Paulo Railway Co. Ltd.**—The report for the year 1939 shows that revenue credits were £20,086 against £19,376 and revenue charges were £35,496 against £28,403, giving a loss of £15,410 compared with £9,027. No interest on the 5 per cent. debentures was paid in 1939 but on January 1, 1940 2 per cent., less tax, was paid and funds are available to pay 1 per cent., less tax, on July 1, 1940.

**United Railways of the Havana & Regla Warehouses Limited.**—On July 1 a payment will be made of 9s. 6d. per cent., less tax, on account of interest due July 1, 1932, on the 4 per cent. redeemable debentures and debenture stock, plus a balance coupon at the rate of £1 10s. 6d. per cent. This payment on account of arrears is rendered possible by receipt of two dividends of 35 cents each on the 36,453 shares of American & Foreign Power Company preferred stock, which are part of the security for the debentures and debenture stock.

**Oxford Transport Trust Limited.**—This company, which is an associate of the B.E.T. and jointly with the G.W.R. controls the City of Oxford Motor Services Limited, reports a profit for the year to March 31, 1940, of £12,205, which compares with £12,592 for the previous year, and with the balance brought forward, £2,501, makes a total of £14,706. The directors recommend a dividend of 7½ per cent. (against 10 per cent.) tax free, and a carry forward of £5,211, subject to E.P.T. liability if any.

**British Electric Traction Co. Ltd.**—The full report for the year ended March 31, 1940, shows that revenue amounted to £745,874, comparing with the previous record revenue of £728,513 for 1938-39. After deducting £117,647 for general expenses, income tax, E.P.T. provision, staff endowment fund, etc., and £79,479 for debenture interest, there is a profit of £548,748 which compares with £482,398 for the previous year. The directors recommend payment of the following dividends for the year ended March 31, 1940: 8 per cent. on the participating preference stock, absorbing £57,019; 8 per cent. on the preferred ordinary stock, absorbing £106,101; and a final dividend of 30 per cent., making with the 15 per cent. interim, 45 per cent. for the year on the deferred ordinary stock, absorbing £355,838. This leaves a balance of £29,890 to be added to undivided profits account. It is stated in the report that this deferred ordinary payment is the first purely cash dividend to be declared on the deferred stock. In recent years the distribution made on the stock

(10 per cent. capital bonus and 5 per cent. in cash) has always had a grossed-up value far in excess of the dividend now recommended, and in proposing a final dividend of 30 per cent. the directors think they are acting well within the principle laid down by the Chancellor of the Exchequer.

**Bombay Port Trust 4 per cent. Sterling Debentures, 1910.**—These debentures are payable in London by the trustees of the Port of Bombay on July 1, 1940, on surrender at the Mercantile Bank of India Limited.

**Atlantic Coast Line Railroad Company.**—An increase of \$2,935,262 was secured by this company in 1939 in operating revenues, which amounted to \$47,099,287. The operating expenses of \$36,671,780 showed an increase of \$1,179,992, and the net railway operating income of \$3,781,872 an increase of \$1,391,121. Income available for fixed charges was \$2,581,025 higher, at \$7,173,112, and the net income of \$804,074 was \$2,662,524 higher.

**Central Railroad Company of New Jersey.**—The 1939 annual report shows that the railway operating revenues of \$33,547,419 were \$4,295,799 better than those earned in 1938. Total operating expenses were \$24,363,838, an increase of \$2,643,822, and the net railway operating income of \$1,943,304 was \$1,684,161 higher. Gross income increased by \$1,699,319 to \$2,877,613, but total deductions from it required \$5,454,655, leaving a net loss of \$2,577,042, which was \$1,687,783 less than that shown in 1938.

**Ribble Motor Services Limited.**—For the year ended March 31, 1940, this company, which is controlled by the L.M.S.R. Company and Tilling & British Automobile Traction Limited, secured a total revenue of £1,604,178, against £1,656,050 for the previous year. After deducting all expenses, including £200,000 for depreciation and £40,000 provision for taxation, there remains a balance of £211,058, from which £75,000 has been transferred to general reserve, leaving £136,058, which, added to £43,834 brought forward, makes a total of £179,892, against £176,834. The preference dividend absorbs £13,000, and the dividend of 10 per cent. on the ordinary shares again takes £120,000, leaving £46,892 to be carried forward.

**W. T. Henley's Telegraph Works Limited.**—Trading profit, after tax, for the year 1939 was £415,204, which compared with £445,159 for the previous year. Net profit was £343,853, against £374,042. The directors recommend a final ordinary dividend of 10 per cent., making 15 per cent. and a cash bonus of 5 per cent. (same) and carry forward £384,331 against £415,394.

**Edgar Allen & Co. Ltd.**—Profits for the year to March 31, 1940, were £214,570, compared with £133,035 in the previous year. The charge for taxes was £125,000 (against £46,000)

and £25,000 (against nil) is reserved in respect of the investment in a subsidiary company now in enemy controlled territory, and £6,000 A.R.P. expenditure is written off. The dividend on the ordinary shares is again 12½ per cent. and £20,000 (against £35,000) is transferred to general reserve; the carry forward is £39,049, against £37,673 brought in.

**Butterley Co. Ltd.**—The directors recommend a final dividend of 8 per cent. on the ordinary stock, making 10½ per cent., less tax, for the year ended March 31, 1940, against 6½ per cent. tax free for the previous year. Net profit, after payment of preference dividend, was £120,344, against £146,105.

## Contracts and Tenders

The Peruvian Corporation has placed an order with Stewarts and Lloyds Limited, for tubes and fittings, to the value of £300.

The Indian Stores Department is calling for tenders (No. W-568) for the supply and delivery before October 1, of copper materials for the railways, including sheets, plates, tubes, and rods. Tenders receivable by the Chief Controller of Stores, Indian Stores Department, Mechanical Section, New Delhi, up to July 4. Specification may be seen on application to Department of Overseas Trade, Great George Street, S.W.1.

Government contractors and sub-contractors are urged by the Board of Trade to avoid all unnecessary imports and to assist in speeding up delivery of imports essential for completion of urgent war contracts. Delay in delivery of essential imports is being caused by failure of contractors to comply promptly and fully with import licensing requirements. This can be remedied, the Board of Trade states, by applying for import licences well in advance, and by sending with applications evidence that the goods are essential for a specified Government contract and cannot be bought in this country. Nothing which can be bought at home should be ordered from abroad. The need for avoiding unnecessary importing of goods is greater today than ever before, because every foot of shipping space and every penny of foreign exchange are required for the immediate war effort.

## U.S.A. EXPORTS

The U.S.A. Department of Commerce reports that exports of railway equipment from the United States in April were valued at \$2,792,213, the largest amount for any month since January, 1938. More than 75 per cent. of the shipments went to Brazil, including 14 steam locomotives valued at \$1,500,607 and 243 freight cars at \$589,742. The value of total shipments in the first four months of 1940 at \$6,930,286 was approximately equal to that for the first ten months last year.

## Railway Stock Market

Reactionary conditions have continued on the Stock Exchange, and with the exception of gilt-edged stocks, security values were again marked lower in the absence of demand. Sentiment tended to be assisted by the satisfactory undertone in British Funds, where, however, interest centred on the new issue of National War Bonds.

During the past few days home railway stocks again moved in accordance with the surrounding trend, but there was a firmer tendency in the debentures, which in some cases were moderately higher as compared with a week ago. On the other hand, further sharp declines were recorded among guaranteed and senior preference issues, but this was again attributed to absence of demand rather than to selling, which did not appear to be heavy. Movements in most of the junior stocks were relatively small. The latter, of course, have been reduced substantially in price in recent weeks, and moreover the disposition is to await the interim statements, which are expected to be announced by the four main-line companies on Friday, July 26, and should enable the position and outlook to be more clearly assessed. It is likely that

a conservative dividend policy will be followed, particularly in view of rising transport costs and uncertainty as to possible air-raid damage. Nevertheless, there seems little doubt that home railway securities are moderately priced in regard to many other classes of securities; but with markets in their present inactive state, questions of dividend yield, and other considerations which normally govern the trend of values, have very little influence on sentiment. In the event of good war news home railway securities would doubtless participate strongly in any general market rally, but unless demand develops, values may go even lower. Consequently there are hopes of extension of official minimum prices to many groups of securities, and other suggestions to prevent a further heavy fall in prices, pending a return to more normal conditions on the Stock Exchange.

As compared with a week ago L.M.S.R. ordinary stock has reacted further from 11½ to 10; the senior preference from 40½ to 38; and the 1923 preference from 26½ to 24. L.M.S.R. guaranteed has depreciated from 71½ to 68½ during the same period. On the other hand, although the 5 per cent. debentures

were a point down at 104, the 4 per cent. debentures improved from 82½ to 84.

Great Western 5 per cent. preference has been marked down from 70½ to 62½. The ordinary stock went back from 25½ to 23, but at 92½ the 4 per cent. debentures were unchanged on balance. Great Western guaranteed stock was quoted at 94. Among Southern Railway issues the preferred was three points lower at 37, the deferred at 7½ was virtually unchanged on balance. The 4 per cent. debentures remained at 87½, but in common with the equivalent Great Western stock, the 5 per cent. preference was no better than 62½, compared with 70½ a week ago.

The first preference stock of the L.N.E.R. was around 22, a decline of 1½ points, while the second preference kept around 7½. On the other hand the second guaranteed depreciated to 42½, and the first guaranteed to 58½. L.N.E.R. debentures were reported to be firmer, the 3 per cents being 57, and the 4 per cents 77, which represents a fractional improvement on the week. London Transport "C" was weak and has been marked down from 32 to 25½. Lack of business again resulted in reduced prices for Argentine and other foreign railway stocks.

### Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1939-40	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares or Stock	Prices				
			Total this year	Inc. or Dec. compared with 1939		Totals		Increase or Decrease		Highest 1939	Lowest 1939	June 25, 1940	Yield % (See Note)	
						This Year	Last Year							
			£	£		£	£	£						
South & Central America	Antofagasta (Chili) & Bolivia	834	16.6.40	18,850	+ 10,250	24	452,390	312,890	+ 639,500	Ord. Stk.	10½	4½	5 Nil	
	Argentine North Eastern	753	15.6.40	ps. 200,400	+ ps. 17,100	51	ps. 7,788,600	ps. 8,084,600	+ ps. 296,000	"	4½	2	2 Nil	
	Bolivar	174	May 1940	4,410	- 540	22	20,650	20,300	+ 350	6 p.c. Deb.	7½	5½	7 Nil	
	Brazil									Bonds	5½	4½	6 Nil	
	Buenos Ayres & Pacific	2,801	15.6.40	ps. 1,055,000	- ps. 355,000	51	ps. 69,064,000	ps. 72,759,000	- ps. 3,695,000	Ord. Stk.	5½	2	2 Nil	
	Buenos Aires Central	190	11.5.40	890,100	- 820,900	46	84,355,600	84,575,800	- 220,200	Mt. Deb.	14	8	13½ Nil	
	Buenos Ayres Gr. Southern	5,082	15.6.40	ps. 1,864,000	- ps. 141,000	51	ps. 116,385,000	ps. 116,982,000	- ps. 597,000	Ord. Stk.	13½	4½	4½ Nil	
	Buenos Ayres Western	1,930	15.6.40	ps. 726,000	+ ps. 69,000	51	ps. 39,236,000	ps. 38,050,000	+ ps. 1,186,000	"	10½	4	3½ Nil	
	Central Argentine	3,700	15.6.40	ps. 1,419,800	- ps. 847,300	51	ps. 87,707,000	ps. 98,241,000	- ps. 10,534,000	"	11½	4	3½ Nil	
	Do.									Did.	4	1½	2 Nil	
	Cent. Uruguay of M. Video	972	15.6.40	22,217	+ 4,381	51	1,091,469	944,283	+ 147,186	Ord. Stk.	2½	1½	1 Nil	
	Costa Rica	188	Mar. 1940	22,121	- 1,348	40	158,217	200,680	- 42,463	Stk.	24½	18	17½ Nil	
	Dorada	70	May 1940	13,000	- 1,500	22	59,100	66,800	- 7,700	1 Mt. Db.	104½	102	100½ 6	
	Entre Rios	810	15.6.40	ps. 255,400	- ps. 58,500	51	ps. 11,958,600	ps. 12,926,300	- ps. 967,700	Ord. Stk.	6	3	2 Nil	
	Great Western of Brazil	1,016	15.6.40	8,000	+ 2,300	24	263,100	221,000	+ 42,100	Ord. Sh.	3½	1½	1½ Nil	
	International of Cl. Amer.	794	Apl. 1940	\$81,298	+ \$46,789	17	\$2,343,432	\$2,284,653	+ \$58,779	"	3½	1½	1½ Nil	
	Iberoamerican of Mexico									1st Pref.	7½d.	7½d.	7½ Nil	
	La Guaira & Caracas	224	May 1940	6,660	- 280	22	34,675	28,640	+ 6,035	Stk.	7	6½	6½ Nil	
	Leopoldina	1,918	15.6.40	20,005	+ 2,904	24	520,912	445,336	+ 75,576	Ord. Stk.	2½	1½	1 Nil	
	Mexican	483	21.5.40	\$282,300	- \$65,500	20	\$6,192,600	\$6,431,400	- \$238,800	"	1½	1½	1½ Nil	
	Midland of Uruguay	319	Apl. 1940	12,921	+ 6,073	44	106,712	89,923	+ 16,789	"	2½	1½	1½ Nil	
	Nitrate	386	15.6.40	5,701	+ 1,263	24	80,813	55,717	+ 25,096	Ord. Sh.	2½	1½	1½ Nil	
	Paraguay Central	274	15.6.40	\$3,107,000	- \$27,000	51	\$160,809,000	\$157,499,000	+ \$3,310,000	Pr. Li. Stk.	45½	36	40 15	
	Peruvian Corporation	1,059	May 1940	69,707	+ 14,276	48	750,190	726,081	+ 24,109	Pref.	1½	1½	1½ Nil	
	Salvador	100	18.5.40	9,813	- 7,737	47	916,614	970,789	- 54,175	Pr. Li. Db.	19½	16	15 Nil	
	San Paulo	153½	9.6.40	40,412	+ 2,255	23	841,124	725,046	+ 116,078	Ord. Stk.	38	20	31½ 7½	
	Talital	160	Apl. 1940	3,085	+ 1,390	44	26,220	29,225	- 3,005	Ord. Sh.	2	6/6	2 Nil	
	United of Havana	1,353	15.6.40	20,704	+ 3,996	51	1,225,068	1,183,654	+ 41,414	Ord. Stk.	2	2	2 Nil	
	Uruguay Northern	73	Apl. 1940	1,225	+ 492	44	11,226	9,837	+ 1,389	Deb. Stk.	2	2	2 Nil	
Canada	Canadian National	23,695	14.6.40	1,093,422	- 408,683	24	20,413,572	15,878,818	+ 4,534,754	"	4 p.c.	74½	60	70½ 5½
	Canadian Northern									4 p.c. Gar.	100½	76	102½ 3½	
	Grand Trunk									Ord. Stk.	7½	3½	5½ Nil	
	Canadian Pacific	17,162	14.6.40	632,600	+ 155,800	24	13,445,400	11,246,000	+ 2,199,400	"	7½	3½	5½ Nil	
India	Assam Bengal	1,329	30.4.40	45,187	+ 6,529	4	135,060	120,437	+ 14,623	Ord. Stk.	76½	60	72½ 4½	
	Barsi Light	202	20.5.40	3,810	+ 638	7	21,030	16,267	+ 4,763	Ord. Sh.	56½	50½	42½ 8½	
	Bengal & North Western	2,096	20.5.40	94,418	+ 11,432	7	469,804	407,264	+ 62,540	Ord. Stk.	277	229½	260 6½	
	Bengal Doon & Extension	161	20.5.40	3,501	+ 962	7	18,661	12,662	+ 5,999	"	91	84½	215 3	
	Bengal-Nagpur	3,269	20.5.40	247,650	+ 17,103	7	1,252,050	1,161,007	+ 91,043	"	94½	83½	94 4½	
	Bombay, Baroda & Cl. India	2,986	10.6.40	285,675	+ 32,775	10	2,102,250	1,894,350	+ 207,900	"	108	90	102½ 5½	
	Madras & Southern Mahratta	2,967	20.5.40	189,225	+ 3,954	7	959,700	906,339	+ 53,361	"	104½	92	99½ 7½	
	Rohilkund & Kumaon	571	20.5.40	22,132	+ 5,636	7	110,568	83,572	+ 26,996	"	280	263	275 5½	
	South Indian	2,531½	20.5.40	121,425	+ 7,685	7	598,652	589,624	+ 9,028	"	102½	88	86½ 5½	
	Do.													
Various	Beira	204	Apl. 1940	74,663	-	30	500,580			Prf. Sh.	½	½	½ Nil	
	Egyptian Delta	623	10.5.40	4,591	- 602	6	19,436	20,384	- 948	"	91½	89	82½ 4½	
	Kenya & Uganda	1,625								B. Deb.	55	39	49½ 7½	
	Manila									Inc. Deb.	91½	87½	82½ 4½	
	Midland of W. Australia	277	Mar. 1940	12,505	- 4,071	40	115,376	138,753	- 23,377	"				
	Nigerian	1,900	27.4.40	41,238	+ 9,029	4	183,454	136,191	+ 47,263	"				
	Rhodesia	2,442	Apl. 1940	389,463	-	30	2,631,875			"				
	South Africa	13,288	1.6.40	653,518	+ 24,208	9	5,778,337	5,574,616	+ 203,721	"				
	Victoria	4,774	Mar. 1940	884,029	+ 32,550	39	7,583,830	7,069,208	+ 514,622	"				

Note. Yields are based on the approximate current prices and are within a fraction of ½% Argentine traffic is now given in pesos. † Receipts are calculated @ 1s. 6d. to the rupee § ex dividend



